The Journal of the American Medical Association

VOL. XXI. CHICAGO, NOVEMBER 18, 1893. No. 21.

ADDRESS.

THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.—ITS ORIGIN, OBJECTS AND AIMS.

THE PRESIDENT'S ADDRESS.

Delivered at the Annual Meeting, held at New Orleans, La., Nov. 14, 15 and 16, 1893,

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Six years ago a small band of earnest, brave and determined Southern surgeons assembled in the city of Birmingham, Ala., with Dr. Haggard as President, amidst doubts, anxieties and misgivings for the future, to found and organize a Southern Surgical and Gynecological Association, and in this effort to build up an organization that would meet the advanced requirements of the times, and that should rank in point of talent, efficiency and high-toned character with the other great institutions of the kind, in this and other countries.

Under the circumstances we fully appreciated the difficulties ahead of us, and measured accurately the herculean task that had to be accomplished. Many of the most eminent and experienced surgeons of our section regarded the enterprise of doubtful propriety, while others equally distinguished believed that the object would never succeed.

But notwithstanding the stupendous difficulties we had to encounter, the vast labor expended and the many obstacles in our path, the Southern Surgical and Gynecological Association stands to-day a monument of energy, enterprise and indomitable will power.

In launching forth this enterprise upon the world of science, we were anxious but hopeful for the future; and in laying the foundation of our Association with a view solely and alone to future success, regardless of prejudice, of individual opinion or interest we determined to begin in the right direction and continue so to the end.

The first and most important question to settle was a leadership, and to be certain that no mistake could be made in the selection of a leader fully capable of steering the ship on its voyage, whether in calm or in storm, we wisely selected one of the most distinguished and eminent men in our profession in this nation; a man who by character, talent and reputation was in eminent degree qualified for the purpose. We started out on our career in the right way, and I trust that, by the exercise of wisdom and discretion, we shall continue to prosper in the future as in the past.

The next consideration of importance was the selection of proper material to compose this body. In framing our laws to meet this important question, I think the Association has manifested wisdom, judgment and foresight. They were so arranged as to admit to membership three distinct classes of professional men: the specialist, whether surgeon or gynecologist, of distinction, skill and experience. The second was the general practitioner of eminence and experience, who in addition practiced surgery and gynecology to a limited extent. The third was the rising young surgeon or gynecologist of character, talent, education and promise, but whose practical experience was limited. In this connection this term, *promise*, means a great deal. Throughout our Southern country there are hundreds of accomplished young surgeons and gynecologists of *promise*, but not yet of eminence, who are struggling for success and who are certain to attain distinction, that this arrangement was made to reach. These are the men who are coming forward to take the place of those of the past generation, and these are the future hope of our country.

There never was in any land or any age so many young enterprising men of character, talent, energy and education as in our country at the present time. It is to this class of young men of known talent and energy that this Association has extended the right hand of fellowship, and a free untrammelled invitation to unite in our work and responsibilities, and the act has been a wise, judicious and profitable one. The individual or organization that has extended the helping hand of encouragement to the deserving, meritorious, energetic, struggling young man in fighting his way to success and eminence, has done a noble and generous act of humanity. The time seemed propitious, then, for the organization of a Southern Surgical and Gynecological Association. Circumstances demanded it and subsequent events have warranted it. Since that period this Association, I am proud to say, has scientifically, intellectually and professionally become an integral part of Southern progress. It is an evidence of Southern spirit, energy, enterprise, recuperative power and courageous determination to rise above its desolated condition and conquer success and prosperity; and it is typical of that noble and brave ambition which pervades our people, to restore this once impoverished land to a state of prosperity far beyond that of the golden past. Twenty-five years ago the condition of the Southern people was desolate and impoverished, to a degree that no civilized nation of modern times has been reduced. For those who had to begin the herculean task of restoring lost fortunes, and rebuilding a ruined country, the outlook was appalling and dreary beyond measure. Since that time, well calculated to appal the stoutest hearts, our noble profession by its labors of humanity, charity, its cheering influences and brave example has exerted in Southern recuperation a powerful effect for good.

That our Southern country might be enabled to reap fully the benefits of its talents, learning and

labors, the organization of a home association for the development of surgery and gynecology was imperatively demanded, and this organization came in response to that demand. In the progress of Southern affairs, in the onward march of improvement, in the advance of thought, in that vast wave of prosperity, which is now in progress throughout the land, this organization had become a necessity to the progress of surgery and gynecology among our Southern people. And as time marches on, and future events reveal the requirements of our country, they will only serve to prove that the foundation of this Association came at the right time to subserve a great and pressing purpose. The origin of the Southern Surgical and Gynecological Association was based on a necessity of the times. Its object was the promotion of the progress of scientific surgery in the South, and its aim was the development of surgical talent and learning in our Southern profession. In this direction I am impressed with the conviction that this Association, in connection with others, is doing a great and good work for our country. All professions, in all times, and in all countries, need an active living stimulus to urge them on to energy and enterprise.

Forming an opinion by my own individual experience, and by that of others, I am persuaded that no member who has followed the progress of this Association closely, and who has taken assiduous part in its proceedings, whose knowledge of the science of surgery has not expanded; whose ideas have not been enlarged by the able papers and discussions that have characterized our transactions. The character, reputation and vast experience of many of the surgeons who compose this body, and the splendid work they have performed are in every particular worthy of the great Southern people, and would be an honor to any people or nation on earth.

Throughout our sparsely populated Southern country there is a large class of general practitioners, many of whom are good surgeons and gynecologists, men of reputation, of education, experience and standing in their communities and States, whom it was designed to bring into active sympathy and coöperation with the work of this institution. This is a meritorious class of men in every respect. Their services as surgeons are of infinite value to our Southern people, and their influence as men of refinement and moral character are equally valuable as a high-toned honorable example.

But, unfortunately, this class of men were absolutely debarred from sharing the privileges and advantages of the exclusive special associations of the country. All professional associations, however exclusive, open their doors widely to men of national or world-wide reputation. Men of great talent or reputation are, as a rule, always welcome to such associations. But it is very different with the two classes alluded to in the foregoing pages. The doors of the great national associations of specialists are closed and barred against those two classes of professional men, however meritorious may have been their lives, provided they have not reached the climax of professional reputation. I am happy to say that the organization of this Association is based upon broader, more liberal and more democratic principles.

Our laws and our principles require that all whose names are inscribed on the rolls of this Association shall be men of honor, of character and standing, of education, of talent, or experience and distinction.

In this way we have brought together and united in one compact, harmonious working body the skilled and illustrious specialist, the educated, experienced general practitioner, who includes in his work surgery and gynecology, and the educated young surgeon and gynecologist of talent and promise. We believe that this arrangement subserves the purposes and requirements of our Southern people better than any other. We believe also that the influence of such an arrangement will tend more certainly to build up the interests of surgery and gynecology in our section, and at the same time to advance the interests of the medical profession in our Southern States, than if we had organized an exclusive association of specialists. In this great work we must ever bear in mind the fact that our labors, means and time are being expended, not only for the benefit of science generally, but also to aid in the cause of Southern restoration and recuperation, educationally, intellectually and scientifically.

Scientific bodies, whether medical, surgical or otherwise, are in all intents and purposes educational and instructive, and their management, principles and work should be so arranged as to conduce to these objects in the highest degree. The professional association and journal are both exerting a powerful effect in promoting the cause of medical science. They are the progressive allies of the medical college in the art of teaching medicine. They are both great and necessary mediums for the interchange of thought and opinion, and for the publication of that which is above all things the most useful and indispensable, whether to the experienced or inexperienced—the results of practical personal observation and investigation. Pure science without experience is simply impractical theory. Simple experience without the light of science is but little better than profitless rubbish.

It is this admirable combination of scientific learning and culture, and ample and well-regulated personal experience that gives to the work of this Association such force and effect in our profession. It is the friction of mind with mind, the interchange of thought with thought, idea with idea, that stimulate intellectual effort and development, and add to the accumulation of knowledge.

The conservative character and mission of the Southern Surgical and Gynecological Association affords a field for the liberal interchange of thought and opinion that none other does. It is a school for imparting and receiving practical knowledge that is unrestricted and untrammelled.

In every section of our country, accomplished surgeons are springing up who are prepared to practice surgery scientifically and successfully. It is in obedience to this rapid increase of surgeons and gynecologists that this Association was founded. There was a period when a single surgeon could control the practice of a great section or State. It is no longer thus. The unlimited avenues for the acquisition of medical knowledge have wrought a wonderful change in this respect. I will not say that education is leveling all things, but I will say that education is elevating all things moral, intellectual and material.

I regard this Association in the light of an organized institution for the acquisition of a practical knowledge of surgery and gynecology. To so con-

struct it as to make it an organization where practical experience alone is taught, was one of the principal aims of those who founded it. We need in our Southern country, practical men, practical ideas, practical methods and knowledge. This is eminently a practical age, and in this respect we have endeavored to adapt the working of this organization to the practical wants of the times. Ever bearing in mind the great principles of honor, right, justice and truth, let every man, whatever profession or vocation he may be destined to fill, labor to make our Southern people a practical people, a useful people and an honorable people. Practical employment is the great and pressing need of the hour and times. In restoring the prosperity of our country, in rebuilding our great and valuable interests, nothing but practical methods and means will succeed. We believe that in furthering these great and vital questions that we, as a profession, with our present practical methods of research, observation and investigation are by example and practice contributing our influence towards Southern recuperation and restoration. But we are not only engaged in a great and important practical work. We, at the same time, have not forgotten the refined amenities of personal association.

The interchange of thought and opinion between the members of our Association, different from that of some others, has never been trammelled or embarrassed by acrimonious controversy or harsh criticism. On the contrary, our discussions have ever been conducted in a spirit of manliness, high-toned gentlemanly bearing, and a courtesy that has ever characterized our proceedings. In this way, thought has ever had a free range, and it has been the means of developing a freedom of opinion that has exerted a most happy and beneficial influence over all. Courtesy in our intercourse, kindliness to all, a due respect for the rights of every individual member, in heir results are not limited to the personal gratification they afford at the moment, but looking far into the distant future we see the working of these charming influences in engendering delightful memories that we have acted our parts as men of honor and humanity.

The memory that we have treated our brother kindly, magnanimously and generously will do to carry with us down the rugged path of life. Recurring again to the beneficial influence exerted by medical associations on medical progress, I do not hesitate to hazard the statement here that the Medical Association of my own State, Virginia, has accomplished more to raise the profession of medicine in that State, up from its condition of lethargy, depression and helplessness resulting from the wreck and ruin of war and restore it to energy, life and prosperity, than any other single agency. No one can fully realize or appreciate the grandeur and importance of this work, and its valuable results, but those who are familiar with the black hopeless chasm of despair into the gulf of which our people had sunk after the late disastrous war. Then how much cause have those who expended their time and means and have toiled and persevered in past years, often against opposition, discouragement and difficulties, to congratulate themselves on the splendid results of their labors, and to feel proud that they have borne an honorable part in this great and noble work. The diffusion of useful and practical knowledge, the education of the human mind, and the elevation of human thought are among the grandest of human missions, and rank in their glorious results almost equal to, and but little less in importance, than the propagation of the gospel of Christ.

Then let us not under-estimate the importance of the aims and objects of this Association. They are not limited to the pleasures of reunion; neither are they confined to the mere advancement of individual interest or the gratification of personal ambition. They rank far beyond the limits of these considerations. We are building up surgical and gynecological science. We are adding our mite to the accumulated experience of ages. We are engaged in the stupendous work of making surgical history. Whatever is said or done within the confines of this Association, will be impressed on the pages of the medical history of the world and must go down to posterity and bear the test of enlightened criticism. Will the character of our work bear the sharp and rigid criticism of the cultivated, enlightened and searching opinion of the scientific world? I believe that it will. I believe that the character of the work of this Association will rank in point of scientific value and professional merit with that of any other organization of the kind. Medical and surgical associations have multiplied with extraordinary rapidity in the past few years. Have the results of this vast increase in medical associations proved favorable or unfavorable for the cause of medical science? I believe that it has been for the good of medical education and progress. It indicates the development of a spirit of inquiry, of research, a desire to impart and receive information, and a laudable ambition for advancement that augurs good for our country. The Southern States, six years ago, were absolutely destitute of a surgical or gynecological association. This, when considered in connection with the large number of talented, experienced, and promising surgeons and gynecologists in that section is a remarkable fact.

These Southern surgeons and gynecologists scattered over vast and sparsely populated sections, men of talent, character and education, had no association of the kind on earth with which they could unite. Their reputations were not such as to entitle them to fellowship in the great associations of specialists in our country. This had become a serious question in the medical profession of the South. There seemed to be just at this period a consensus of circumstances, a fitness of things, a tide of professional sentiment and opinion which proclaimed to us in strong and unmistakable language that there was a demand and a necessity for an association, based upon principles of surgery and gynecology, coëxtensive with the interests of the medical profession of the South, but at the same time one based upon more liberal and broader principles, and more suitable to the requirements of the Southern people. Were these meritorious and deserving men to be forever excluded from all participation in associations of this character, and debarred from all their advantages, pleasures and profits? No. The time had arrived in the accumulating necessities of the age, when talent demanded a fair, unobstructed field for action.

Intellect in its height, depth and immensity is godlike, and it is a God-given function to be cultivated, developed and used for the good of the human race, and it is our imperative duty to give it a generous and liberal encouragement. When for a moment we pause and reflect on the wonderful develop-

ment of talent, the extraordinary acquisition of knowledge, and the marvelous progress of medical science in our land, it is not difficult to realize the fact that the rapidly growing and expanding medical talent of the South called for and demanded a new organization, to meet the rising emergencies of the times.

The origin, objects and aims of this organization must be regarded in a broader, wider and far more important light than the mere founding and building up of a professional association under ordinary circumstances. The state of the medical and surgical sciences is inseparably associated with the moral, intellectual and material progress of countries and nations. At the conclusion of the late civil war, the condition of the Southern States was, in many respects, similar to that of a people just beginning a new life, but bereft of everything, material and immaterial, for the reorganization of society. The medical profession ever brave, ever earnest and ever determined, was among the earliest, in this gloomy and discouraging prospect for our country, to indicate signs of recuperation. Since that sad period in our history, the onward progress of medical science in the South and the process of Southern recuperation have advanced, hand in hand, shoulder to shoulder, and are linked indissolubly in destiny. When medical science declines and falls, in this or any other nation, then civilization and national prosperity will go down with it. Medical science, enlightened, cultivated, pure, constitutes one of the strongest pillars of civilization and national refinement. And though our people were left, after a disastrous war, impoverished and desolated, they still clung to their civilization, their religion, their medical and legal learning.

No nation, no people can ever rise high in the scale of enlightenment and prosperity without an enlightened knowledge of medical science. It is one of the earliest indications of national progress, and one of the earliest to indicate national decline and decay. In founding the Southern Surgical and Gynecological Association, I believe that we have accomplished a noble and commendable work. It was an important duty that we owed to Southern recuperation and prosperity, and in laboring to strengthen medical science in our country we are bearing our part, however insignificant it may be, in the grand cause of civilization and enlightenment. We stand here in the relation to each other of both teachers and learners. We instruct and are in turn instructed. The very nature, the pith, the leading principle and object of this Association is *educational*. Its chief aim is to aid in the cause of developing enlightened surgery and gynecology in the sparsely populated sections of our Southern country. If, in our efforts we have been the means of conducing to this end, then our labors have not been in vain.

The medical and special associations of our country I regard as an important and indispensable part of the educational system of the nation, and none are doing more efficient or valuable work for the promotion of this cause than this. Men of eminence, distinction and vast professional opportunities, fresh from great and almost unlimited fields of practical experience meet here on common ground, rich and ripe in knowledge acquired from active practice, and each willing and ready to impart to the other, valuable treasures obtained from practical observation.

While the Southern Surgical and Gynecological Association is supposed to be composed exclusively of specialists, as its name implies, this is not a strictly correct idea of its character. If it were so constituted it would fail to meet the requirements of the Southern people. It is in reality composed of two distinct but harmonious elements—the skilled and learned specialist and the minor surgeon and gynecologist. I believe, as previously expressed, that the latter is at this time a necessary element of Southern society as at present constituted. The chief advantage of this arrangement is that the skilled specialist becomes the teacher of the minor gynecologist. He instructs him in that most important art, a correct knowledge of the true distinctions between the requirements of major and minor gynecology. To have attained to a clear and scientific understanding of the art of knowing when a given case demands surgical interference, or when conservative treatment only is required, is arriving at a state of perfection that the most learned might envy. Both the major and minor gynecologists should, by all the means in their power, strive to attain this facility or art of differentiation in this particular, as being the basic principle upon which all safe surgery depends.

The learned and skillful specialist occupies a position in this Association of infinite importance and usefulness, his relations here to the minor gynecologist are equally fortunate and favorable, and his influence for good is invaluable. There can not be skilled specialists in every town and village in our country, but there are thousands of diseased females who require attention but are not proper subjects for surgical operation, and who have not the means to enter a sanitarium for treatment. There are this day hundreds of educated physicians practicing minor gynecology among this class who are doing a good and meritorious work. Let us not under-value the merits of an intelligently and skillfully practiced minor gynecology. If there is any good in it, let whatever is good be sifted from that which is worthless and estimated at its true value. I believe that minor gynecology has its proper place in the science of general gynecology.

The appearance on the stage of medical progress, of the skilled specialist, has been one of the glories of the present generation. It is one of those brilliant and splendid advances in civilization that appears only at rare intervals in the progress of science. It marks a tremendous stride in the onward march of our profession. Medical and scientific knowledge and learning were pressing on the human brain so forcibly and powerfully as to demand more room, and a wider field for action, and specialism came for the accommodation of this marvelous increase of knowledge.

Forty years ago there appeared on the scene of American surgical science a man whose splendid genius blazed forth in all the brilliancy of the gorgeous and glorious sun of the summer morn. He came from poverty and obscurity. He came unheralded, unpredicted and unexpected. Rarely has it been the fortune of any man to make such impression on professional opinion and practice. He was a native of our Southern land, and it was in that warm, genial and sunny clime that his genius was

born. It was that grand and superb man whom we all loved and admired, the great Marion-Sims, *the ideal specialist*. His life was a beautiful picture to contemplate, of lovely character, of attractiveness of person, of innate modesty, elegance of manner, a charming, fascinating voice, united with the grandest order of genius and strength of intellect. He was, in all the relations of life as a man, a great surgeon, as a humanitarian and speaker, one of the most splendid of his race. His appearance on the scene of surgical science marked an epoch in the history of surgery, not only in his own country, but throughout the universe. Marion-Sims was truly a great man. He originated ideas, thoughts and practices that revolutionized the opinions and methods of an age, and that must impress themselves on the current of surgical progress for all future time. It was not the borrowed, purchased or surreptitiously acquired reputation, but the glorious genius of nature, bursting forth and unfolding itself as circumstances and opportunity called it into active life. The man who can turn the great strong tide of human thought from the depths of doubt, uncertainty and darkness, into the clear golden light of truth, reason and certainty is nothing less than a heaven-born genius.

We, of the South, have a just right to feel proud of the genius and greatness of Marion-Sims. We are proud that he was born on Southern soil. But at the same time we are proud to call him an American citizen, an honor to his country and age. Nothing but the demands of absolute necessity brought forth the specialist in modern gynecology. Sims was the forerunner, the pioneer who made it reputable, who made it great and launched it on its road to greatness and power. Medical science had grown too vast, too complicated for any single mind to grasp or practice. The time had arrived for a division of labor in our profession, and the rapid development of medical science imperatively demanded it.

In the economic arrangement of all things there seems to be a tendency to a division of labor. We observe this tendency in the arts, manufactures, sciences, in commerce; and in nature's great field of operations we see this principle at work busily and unceasingly, and as we near the goal of perfection in medicine, specialism or a division of labor, will be drawn finer and closer as we progress. If the division of labor has been a means of developing art, mechanism, manufactures, then there is no good reason why it should not become a means of developing medical science also.

The progress in medical and surgical science in the past twenty years has astounded the civilized world. We, who are engaged in its daily study and practice, behold its wonderful advance with astonishment. These wonderful changes have been wrought largely through the advantages of a division of labor. For ages the advantages of a division of labor were unknown and unrecognized. Hence the progress of medicine and all other sciences and arts was slow, uncertain and often retrogressive. So long as a single mind attempted the impossible task of grasping all things there could be no progress.

But while untold benefits have resulted from a division of labor in our profession, in developing the various great specialties and in the attainment of their wonderful power and perfection, this vast influence may prove a source of danger, and specialism may in its exalted position become domineering, intolerant, nay radical, and run into the extreme of exclusiveness and narrow-mindedness. I am happy to say that in the construction of our organization there is a conservative element, a balance wheel that will protect us against these untoward dangers.

All organized bodies, in their struggle for the attainment of success and the maintenance of that supremacy that comes from success, may in certain particulars be compared to individual enterprise. When by a long course of toil, perseverance and good judgment the much coveted goal of success has been at last attained, and the very pinnacle of hope has finally been reached, and we stand apparently on a firm and solid foundation, and then can take a retrospective view of the difficulties of the past, and look the future in the face with confidence and composure, and satisfy our minds that all has been accomplished that ambition, hope, and expectation could desire, then we already stand on dangerous ground. It is as difficult in the affairs of this world to maintain success, as it is to attain it.

You and I have toiled for years to build up this admirable and noble institution, the pride of our profession. Let us, with equal ardor and earnestness labor to maintain it in its integrity and power, and to perpetuate it for all future time. We stand here as an organized band, united in purpose to promote the great and glorious cause of surgical science, with this single aim in view, congenial in sentiment, united in friendship, strong in the confidence of each other, determined to give our time, talent and energy to the great work before us.

Forty-five years ago the medical history of female diseases was in a state of primeval simplicity, and it was the simplicity of profound ignorance. It was then confined usually in the concluding pages in some work on obstetrics to a description of prolapsus uteri, leucorrhea, amenorrhea, dysmenorrhea, menorrhagia, cancer uteri and metritis. Now the literature of gynecology is sufficient to fill a respectable library, and the work is of sufficient magnitude as to occupy the most splendid minds of our day for a lifetime. Such is the importance of her who is the loveliest of all God's creation, and such is the vastness of her peculiar diseases.

The change that these forty-five years have wrought is marvelous and astounding, even to us who make the science an object of daily thought and observation. Surgery has taught gynecology much, but gynecology has repaid surgery with full measure. The gynecologist taught the surgeon the invaluable lesson that the abdominal cavity could be opened with impunity, and its organs exposed, handled and treated successfully. The grand lesson was taught in the wilds of Kentucky more than seventy years ago. Every year of our progress, gynecology is becoming more and more a part of surgery, until it would seem that the two would become ultimately blended into one vast science. Nevertheless, I am impressed with the conviction that there are two natural divisions of gynecology, based upon actual and real phases and conditions of disease, the major and minor forms of the science, and that the lines between these two divisions can never be obliterated. History indicates that the science of medicine is replete with remarkable changes, sometimes advancing and at others receding. Sometimes following new ideas and theories with

intense zeal to extreme results, and again abandoning what appeared to be fixed principles and practices and then retracing its steps returns to old opinions long discarded.

Our profession is steadily advancing, but it does not progress in a direct line forward. However apparently well grounded and firmly fixed may appear our ideas and principles of to-day, they may be overturned by others equally plausible, and set aside tomorrow. We may not be surprised if principles which appear to us to be settled for all time should in a few brief years be rejected as untenable. But without a scientific knowledge of the principles of sepsis, as a cause of disease, and antisepsis comprising the means of correcting diseases, this Association and others of its kind would not now be in existence. Sepsis is no longer an idea or a theory. It is an established fact, and has come to remain with us for all time. It has made surgeons and gynecologists of us all. Men who were formerly timid and hesitating about using the knife on any occasion now dare use it at every opportunity. We are naturally inclined to ask this question, When will this thing end, or has it any end?

There is at the present time a larger degree of talent, absolutely and relatively, of education, of learning engaged in the study, observation and practice of medicine in its various branches, throughout the civilized world, than in any other single subject. This is in wonderful contrast with the state of medicine two or three centuries ago. We can now, without emotions of shame or reproach, look the world squarely in the face and with pride and justice proclaim that modern medicine is a science. Twenty years of the present time can bring forth more for the enlightenment and civilization of the human race than five centuries did a thousand years ago.

In conclusion, I desire to make some passing allusion to the alleged sectional character of our title and purpose, "The Southern Surgical and Gynecological Association." Those who founded this Association never entertained the remotest idea or intention of organizing it or using it for sectional purposes. They believed that the necessities of the medical profession of the South demanded and required such an institution based upon broad, liberal and democratic principles open to merit, talent, and character for the encouragement of medical progress in that section.

No! We are of all people the least sectional. We are a band of workers linked together, working with one mind, with the single purpose, the noble object of promoting the sciences of surgery and gynecology. We know no politics, no political distinctions. We do not even know the political opinions entertained by each other. We are composed of ardent spirits in search of scientific knowledge from the far North, the distant West, the East and the South, that mingle together on perfect terms of equality, in social pleasure, and in a spirit of kindliness and mutual confidence. There are those here mingling together in friendly intercourse who took part in the great struggle, and who stood arrayed against each other in bloody array, now united in friendship and engaged in the humane office of devising means for alleviating human suffering and prolonging human life. The scene, as it presents itself to my mind, of men with one single and grand and glorious object working together harmoniously, congenially, trustingly, forgetting all differences of opinion, political and social, each ready to make sacrifices for the other and for the good of the cause, presents a sight truly noble and worthy of the greatest admiration.

To those illustrious and distinguished men who have at our invitation come from the great cities of the North—Boston, New York, Philadelphia, Buffalo, Chicago, Cincinnati and St. Louis, and united their destinies with ours and are sharing with us our toils and responsibilities, I have only words of admiration, commendation and kindliness. I, for one, thank them for the noble, distinguished and unselfish part they have borne in laboring with us to build up the cause of medical science in our once impoverished Southern land, and I can in all truth and sincerity assure them that their association with this institution has not only redounded to its welfare and profit, but has brought about a friendly and kindly relation and engendered charming and delightful memories that I trust may go with us through all the vicissitudes of life and end only when life itself is no more.

And, finally, in the concluding sentences of this address we can, in all truth, congratulate ourselves that we have arrived at a stage of the progress of this organization where we can look back and take a retrospective view of our work for the past six years, and see the good results of our labors, and observe the growth of this Association from a small beginning to a great and influential body, representative of the Southern profession, and respected not only by the people of the South, but by the entire profession of this great Union. How has this eminent position in the estimation of the profession of our country been attained? This great and desirable end has been accomplished solely and alone by a strict and unswerving adherence to the inflexible principle, that no man can gain admittance to a membership of this Association who has not an unblemished character, who is not a gentleman of honor and probity, and who does not possess professional attainments. That Council of Five, which is so strong and valuable a feature of this Association, has ever been the watchful, the faithful and incorruptible guardian of the interests, the rights and the welfare of this institution, and they have unswervingly protected it against the entrance of men unfit to become the associates of gentlemen of honor and attainment.

Gentlemen, this is the basis, the foundation of all great and prosperous institutions. However brilliant and splendid may be the intellectual features of an institution, if it is corrupt, is low in its standard of character, if it hath not honor, purity and refinement it can not stand the test of time. Then let us hold to that invaluable principle which has given us strength, influence and prosperity, which has made us what we are to-day, a great and respected body, whose portals no man is permitted to enter without an unblemished reputation. Let us but determine to maintain this high standard of qualification which has been the established rule of our action in the past, and the future success and prosperity of this Association is assured, and it will take rank morally and intellectually with the greatest association of the kind on earth. But if the day should ever come when this high standard for membership should be lowered, then our reputation and standing in the estimation of the world will be trailed in the dust, and the Southern Surgical and Gynecological Association will no longer command or deserve the respect of an honorable profession.

THE RELATIVE VALUE OF THE OBJECTIVE AND SUBJECTIVE SYMPTOMS OF DISEASES OF THE UPPER AIR PASSAGES.

CHAIRMAN'S ADDRESS.

Read in the Section on Laryngology and Otology, at the Forty-fourth Annual Meeting of the American Medical Association.

BY E. L. SHURLY, M.D.
DETROIT, MICH.

It has been the customary duty, I believe, of the Chairman of a Section to present an epitomized review of the new facts and new thoughts evolved during the year, pertaining to the department of medicine or surgery, in this ASSOCIATION, to which he belongs. As highly useful and edifying as this plan has been in the past, I doubt its utility at the present time when medical literature is so widely distributed, and accessible to every physician in the land. Therefore such a compilation would of necessity fail to edify such a body of men as are assembled here.

We are aware that one of the crying evils of the present time is too much medical literature, and possibly too many medical journals. However this may be, it is doubtfully an evil, and if so will properly adjust itself in time. The fancied harm arising from a journal article or even a text-book on the practice of medicine, or any department of it, such as diseases of the throat, which may be written by a very recent graduate is likely to be very much over-estimated. It may do the author or compiler much good as an educational measure, while the reader will not long be influenced by its lack of practicability, particularly if he has had some experience. Besides, the time of "rules of practice" in any department of medicine has about passed away. Speculative thought is disappearing before the rapid discoveries of physiologic, biologic, pathologic, and chemic discoveries, and consequently the practice of medicine and surgery is approaching a state of exactness. And the practitioner, like the navigator, shapes his course under the guidance of charts and observations based upon the developments of nature herself.

Coming to a consideration of the work of our own Section, and sparing you a dissertation upon the fashionable topic, viz: the general practitioner vs. the specialist, I will invite your attention briefly to a few thoughts on the relative value of the subjective and objective symptoms (including visual observations) of diseases of the upper respiratory passages.

Every one who has used the microscope very much or practiced exclusively in any particular field, will admit that without due care a tendency will arise to exaggerate local appearances and symptoms, to the exclusion of other and more general bodily ailments; in other words, as Josh Billings expresses it: "To know too much that isn't so." This failing may occur to the best of minds, and it seems to me may become a serious hindrance to real medical progress in more ways than one.

The glory from cauterizing a couple of apparently swollen, and red, turbinated bodies should be promptly swamped by the further observation that the patient does not suffer from nasal stenosis or excess of secretion over what might be expected, under the circumstances of climate or surroundings. Although such operation may for the time relieve a headache, "a spell of insomnia," "nervousness" or apprehension of a "horrid catarrh," yet little satisfaction will be yielded the practitioner a year or two afterward, when he observes that the former symptoms have returned, with possibly an unrelenting sensation of dryness with sneezing, or other discomfort superadded.

Many such cases, therefore, could be treated far better by attention to the stomach, bowels, habitat or habits of such a patient. Neither will it be considered necessary to saw off every deflection of the nasal septum met with, when we consider how many people go through a tolerably healthy life to a good old age, with a nubbin, angle or convexity on the side of their nasal septum. There are many persons presenting one or other of these local abnormalities, who, as we know, are much sooner restored to a normal condition without the adoption of such heroic local treatment.

Many of the published instances of brilliant cures of hay fever, chorea, insomnia, neuralgia, persistent cough, asthma, etc., brought about by cauterization or operations—such as sawing and drilling—of the tissues of the nasal passages, lose their brilliancy a short time afterward when the effect of the counter-irritation has passed off, and a complete relapse of the symptoms occurs, and the connective or fibrous tissue formation, replacing the destroyed mucous membrane or cartilage proves a still greater annoyance to the patient. Likewise many of the various complaints relating to the pharynx and esophagus—such as fullness, frequent acts of swallowing, pain referred to this region, continual spitting of saliva or mucus, and supposed difficulty of swallowing, sensation of dryness, or of a foreign body (such as a stick, pin, bristle, and frequent sneezing, may be entirely due to derangement of other parts of the body or the nervous system—notwithstanding the presence of enlarged follicles on the walls of the pharynx or at the base of the tongue, or a so-called ragged tonsil. An experience of my own, will illustrate this point:

A case of well-marked follicular pharyngitis with enlargement of the glossal papillæ was under my professional care for a number of months. Cauterization with the galvano-cautery and chromic acid was carefully practiced upon the abnormal follicles, and rigid attention given to diet and hygienic surroundings. But, notwithstanding all this, the patient continued to complain about the same; if anything a little more. After a time, hoarseness gradually supervened, and the patient grew apprehensive, while I was beginning to despair. I had made a thorough examination of the chest several times, but could find no lesion of the lungs nor auscultatory evidence of any enlargement of the mediostinal glands. Finally, I found upon a subsequent critical examination of the person a fissure of the anus, which the patient had scarcely ever complained of. Upon treatment and cure of this fissure, all of the throat symptoms quite rapidly disappeared, although for some time there remained what seemed to be a congestion of the pharynx and upper larynx. Another case, of quite severe rhinitis, covering a period of several months which seemed to defy all treatment, conservative and radical, was effectually and quite rapidly relieved in a patient of mine, by the treatment of the skin with soap baths, which plan I was led to adopt by the discovery that the skin was continually dry, lacking in oil and flexibil

ity. Still another instance was that of a patient suffering from chronic coryza with nasal stenosis, (from enlargement of the turbinated bodies) and excessive nasal secretion, who was not relieved materially by cauterization, etc., but was effectually restored to health by a few consecutive doses of blue mass, administered on account of the observation of symptoms indicating so-called torpidity of the liver. This patient has never had any return, to my knowledge, of this troublesome rhinitis excepting such as all persons living in the Northern States are apt to have during the changes of weather incident to the spring and autumn seasons.

It may be considered by many that in these cases the previous local treatment had some good effect, while, undoubtedly, some credit might justly be given to the local treatment adopted, yet I do not see how to avoid the logical conclusion that the nasal and pharyngeal disease, from which these patients suffered, depended mostly upon a faulty systemic condition.

It is often difficult, I know, to discriminate between the direct and indirect causes of such signs as before mentioned. While structural change or functional derangement of the nerve centers may give rise to such symptoms referable to the region of the throat, yet there are undoubtedly many peripheral lesions which are the result of affections in some one or other of the organs outside of the nervous system, as well. Besides, we must not overlook the fact that chemic and biologic derangements may be manifested in this manner, for we frequently find patients suffering from oxaluria, who complain of abnormal sensations in the throat such as fullness, constriction, persistent cough, or who may indeed show signs positively of congestion of the nasal passages.

It is not infrequent in the early stages of Bright's disease, and diabetes, to meet with patients who complain almost entirely of derangements about the throat. On the other hand, there may be found in the course of systemic diseases, congestions of the pharynx and larynx marked by alterations of voice, excessive discharge, etc., which seem to be entirely independent of the general affection. Such cases are in a measure amenable to local treatment. One will be surprised, on taking pains to examine the nasal passages, pharynges or larynges of a large number of people, comparatively well, to find bunches of enlarged follicles, or enlarged tonsils, or tonsils with apparently diseased follicles or groups of enlarged glands at the base of the tongue, or swollen turbinated bodies, or enlarged pharyngeal tonsils, who apparently are not suffering from abnormal sensations. It often happens also that we are consulted by people presenting groups of symptoms entirely due to disease or derangement of other organs, whose throats will present some of the appearances just mentioned, but who themselves are unconscious of any disturbance there, unless once in a while under the influence of a so-called cold. On the other hand, while such observations are of untold value in directing our thoughts towards the general survey of the bodily functions, it is gratifying to note, to the credit of this special field of practice, that there are also many instances where marked disease of other organs or parts has been relieved by an operation on the nose for the removal of hypertrophied tissue, or deformity, or disease of bone, or by the local treatment of a diseased pharynx or larynx. It is also quite notable that the treatment by surgical means or otherwise, of an enlarged or diseased palatal or pharyngeal tonsil will sometimes produce the most salutary effects on the general nutrition, or remove a chronic deafness.

In the case of children suffering from so-called adenoid vegetations at the vault of the pharynx, too much consideration can not be given the case before instituting operative procedures. For it must be remembered that the size and shape of the pharyngeal tonsil varies much with the individual, even within the limits of a healthy condition; and that, if the child does not suffer from stenosis, or deafness, or extra secretion or other disturbance of the functions of the part, it will not be necessary *always* to attempt removal or destruction of the part, although the tonsil may appear relatively enlarged. But if any of these untoward phenomena are present in a given case, then the physician should not hesitate to remove by suitable means the redundant tissue.

Unfortunately, regarding treatment of tonsils we are often obliged to depend more upon signs and symptoms than appearances, as our knowledge of the function of these glandular aggregations is far from exact, so that we may meet with the paradox of a healthy individual with abnormal tonsils. Recent experiments upon the internal secretions and glandular system of the body demonstrate the existence of such biologic relations with the blood and various nutritive processes that we may reasonably hesitate about destroying very much, if any, of these structures.

Perhaps I may be accused of taking too conservative a stand; but I know that many present, as well as myself, have seen too often the ill effects of radical treatment by escharotics or surgical measures applied to the nasal passages or throats of young children, as well as adults. Hence I feel justified in holding these convictions.

There are a great many interesting questions relating to local disease which we shall not have time to discuss. It has been claimed that no local disease *per se* (not traumatic) can exist for any length of time without more or less general derangement of the functions. This is perhaps too far from the truth. However, the rapid strides of physiologic chemistry and physiology teach us that local disease is less of an entity than we have been accustomed to suppose. For in all special departments of medical practice there are many observations made, day after day, which show the intimate connection between the different parts of the body through the agency of the nervous system, or the blood or the lymphatic fluid, so that we may well inquire how much truth there is in the above mentioned dogma. In other words, whether local abnormalities are mainly expressions of primary disease there, or consecutive and dependent upon disease elsewhere. Common sense, of course, dictates that if we meet with neoplasms or positive hypertrophy or deformity which, through mechanical or physical irritation disturbs surrounding tissues, we must promptly remove the same by the best and quickest means at our disposal; but, in cases where such local lesions are not obvious, and where there may be doubt, we should delay the adoption of any positive form of local treatment until we have acquired a tolerably good knowledge of the mental and physical condi-

tion of the patient. In other words, the patient is to be viewed as an organism, or a combination of physical elements acting together, before we undertake the work of repair.

ORIGINAL ARTICLES.

A CASE OF CARIOUS DESTRUCTION OF THE ENTIRE PYRAMID OF THE TEMPORAL BONE.

Read in the Section on Laryngology and Otology, at the Forty-fourth Annual Meeting of the American Medical Association.

BY C. BARCK, M.D.
ST. LOUIS.

H. W., aged 12 years, came under observation on Dec. 30, 1891. Both parents living and healthy. Of their nine children, three died in infancy, and one brother of 7 years, a year ago after an operation performed on the left mastoid.

The patient had chronic otorrhea from the left ear for about seven years, the sequelæ of scarlatina. Has been under the care of a number of physicians at different times. Five years ago, an operation on the mastoid had been performed.

Status: emaciated boy; temperature 102; right ear normal; fetid discharge from left ear. Walls of external canal swollen so that no speculum can be introduced. Above the mastoid an old cicatrix; the whole mastoid region edematous and painful upon pressure. Facial paresis of moderate degree. A close examination revealed no evidence of tuberculosis.

FIG. 1.

Operation on Dec. 31, 1891. Opening of the petro-mastoid by the ordinary method. The external lamella of the bone was nearly three lines thick. After its removal with the chisel, a cavity filled with pus and detritus was exposed; scooped out with a sharp spoon. The posterior wall of this cavity was soft, being formed by the dura mater, and upon manipulation on this portion, an alarming cessation of breathing occurred twice.

The healing process at first did not deviate from that of the vast majority of cases. The temperature became normal; general health improved; but the opening did not close. Exuberant granulations sprang up which necessitated repeated removals; rough bone could be felt, and in brief, within the next five months the entire petrous portion of the temporal bone was exfoliated in three large and

FIG. 2.

some smaller pieces. The first sequestrum was removed on February 20, the second on April 16 and the third on May 20, 1892. The last two pieces a and b embrace the whole labyrinth. The drawings are double the natural size.

Soon after the exfoliation the discharge ceased entirely. The permanent opening behind the ear is one-half inch in diameter. Joining the external canal at an acute angle, both lead into a large cavity, one and one-half inches deep, lined by a pale reddish-gray membrane. This is, with the exception of a few softer places, hard and fibrous upon touch, and in my opinion formed by the periosteum.

I do not deem it advisable to close the opening behind the ear by a plastic operation, as the large cavity can be inspected and kept clean better through it than through the external canal.

The general condition has wonderfully improved; boy now in robust health. The facial paralysis had become steadily worse during the illness and was nearly complete at the time of the removal of the last sequestrum. Since then it improved slowly; the eye can now be closed up to 4 mm.

The taste on the left half of the tongue is considerably lessened, conclusive evidence of an involvement of the chorda tympani. The uvula does not deviate from the middle line, indicating that the nervus petrosus superficialis major remained intact.

Vertigo or impairment of equilibrium has never been observed, neither has patient had subjective noises. The question of hearing is most important. No tuning-fork can be heard from the affected side by air conduction. By bone conduction it is perceived to a moderate degree in the other ear.

FIG. 3.

Careful examinations convinced me that the hearing is entirely lost, but impressed me on the other side with the difficulty or rather impossibility of the complete exclusion of the other ear from the act of hearing. For instance, after this had been tightly closed by three successive pellets of cotton, then the auricle bent forward and covered by a towel and the hands of an assistant, ordinary conversation was understood and repeated at two feet distance from left ear. But under the same conditions it was understood at four feet from the right ear. Control tests are indispensable in these cases. The question has been fully ventilated by Bezold in his valuable contribution "On Necrosis of the Labyrinth," (Arch. of Otology, 1887). In the five cases by Guye, Cassels, Christenneck, Jacobson and Gruber, which were brought forward to establish the fact, that the hearing is not entirely lost after destruction of the labyrinth, he proved the assumption to be fallacious. None of them can pass the crucial test absolutely necessary in a question of such fundamental physiologic importance.

The judgment of localization of sound was in my case decidedly better on the right than on the left side.

In the recent literature since 1880, I find seven similar cases reported:

S. Pollack, Arch. of Ot., 1881, p. 361.
Walter Pye, London Lancet, Feb. 1885.
Roosa and Emerson, Leitschrift f. Ohrenheilkunde, XV.
Gottstein, Arch. f. Ohr. XVI. p. 51.
Bezold, Arch. of Ot. 1887 p. 297, two cases.
Koebel, Med. Corr. Blatt. f. Würtemburg, 1889.

THE RELIEF OF CHRONIC DEAFNESS, TINNITUS AURIUM AND TYMPANIC VERTIGO, BY REMOVAL OF THE INCUS AND STAPES.

Read in the Section on Laryngology and Otology at the Forty-fourth Annual Meeting of the American Medical Association.

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There are numerous cases of chronic catarrhal otitis media with the characteristic tinnitus, deafness, and tympanic vertigo, which continue to suffer even after the nares, naso-pharynx, and fauces are restored to health. Therefore, after the restoration of the nose, naso-pharynx, Eustachian tube, and throat to a normal condition, the aural symptoms being little or no better, the aurist is confronted with the very important question as to what shall be done to improve the hearing, reduce the tinnitus and abolish the vertiginous tendency. Many surgical methods of treating the ear at this point of its history have been suggested and put into operation, chiefly for the relief of one prominent symptom, namely, deafness. These operations have ranged from simple puncture to total excision of the tympanic membrane, and the removal of one or more of the ossicula. Sometimes, however, patients complain more bitterly of the noises in their ears and of the vertiginous symptoms, the latter often mis-called Ménière's disease, than they do of their deafness; and gladly accept relief of these symptoms even if the deafness remains. Unfortunately for these patients the noises in the ear or ears, and the tympanic vertigo, or mis-called Ménière's disease, which are entirely due to lesions of the middle ear, from chronic catarrh, are very frequently erroneously ascribed to "biliousness," or "neurasthenia," and hence the constitutional and electrical treatment often instituted on this false diagnosis lead to no relief; often, indeed, such treatment aggravates the symptoms. All of these symptoms—tinnitus, deafness, and tympanic vertigo are due to the chronic sclerosis of the mucous membrane of the drum cavity, and consequent retraction of the chain of bonelets, and the undue pressure inward of the stapes upon the labyrinth fluid. The production of the tinnitus and deafness has long been accepted to be due to this mechanical cause. Not so, however, the chronic tympanic vertigo which so often attends chronic catarrh of the middle ear. It has even received an improper name, being often mis-called Ménière's disease. The latter term, if it means anything, means a form of aural vertigo due to the disease of the semi-circular canals in the internal ear. Disease of these canals, however, is very rare and difficult to diagnose. The name, Ménière's disease is therefore inaccurate, because it is applied indiscriminately to all forms of ear vertigo, regardless of the seat of the otic lesion, whereas, Ménière attempted to prove the existence of a disease of the semicircular canals as the only cause of aural vertigo, an entirely untenable hypothesis. Also the name, Ménière's disease, applied to chronic tympanic vertigo is unjust because Flourens in 1822, and Deleau in 1836, described ear-vertigo more accurately than Ménière[1] in 1861, and Deleau came much nearer than any previous observer, to the solution of the cause of most cases of aural vertigo, in placing the origin in *lesions of the middle ear*.

Tympanic vertigo, however, from lesions in the middle ear is of frequent occurrence. It is often not recognized, especially by the general practitioner as ear vertigo. It is not unusual for tympanic vertigo to be attributed to some intestinal or nervous disturbance as already stated instead of to an aural lesion. Hence, the diagnosis being erroneous at the outset, the treatment is wrong and the patients do not recover.

True tympanic vertigo, due to a lesion in the middle ear, chiefly from chronic catarrh of the tympanic cavity, is paroxysmal in character and always attended with tinnitus and deafness in the affected ear. It is caused by the inward pressure exerted upon the labyrinth fluid by the retracted and ankylosed ossicles. The foot-plate of the stapes is thus unduly pressed into the oval window, and there held by the force named, paroxysmally and for longer or shorter periods.

Chronic tympanic vertigo may attack the patient in any place or at any time without warning, unless it be a slight increase in tinnitus, but this is not invariable. It may vary from a slight unsteadiness in gait to reeling and falling, without loss of consciousness. Sometimes the nausea is intense and vomiting may occur. If the nausea and vomiting are excessive, syncope from this cause may ensue but this is the only form of unconsciousness ever produced by tympanic vertigo.

Such a tympanic and mechanical origin of most cases of ear vertigo, I have long maintained, in opposition to the often asserted neuropathic or labyrinthine cause.[2]

Sooner or later in every case of chronic catarrh of the middle ear there must be a disturbed tension in the conductors of sound, due to the sclerosis of the investing mucous membrane, whereby at times the membrana tympani and the three auditory ossicles are carried unduly inward, exerting a morbid pressure through the stapes upon the fluid in the internal ear. Such irritation in the labyrinth being communicated to the motor filaments of the auditory nerve is reflected by them to the cerebellum, and disturbed equilibration is the result.

This morbid retraction of the auditory chain and resultant cerebellar irritation are not constant, but vary with the state of the general health, and the condition of the catarrhal middle ear, just as tinnitus and deafness vary under the same influences. Hence, all true aural vertigo of tympano-mechanical origin is paroxysmal in form.

If the theory is correct that the vertigo in chronic catarrh of the middle ear is due to the paroxysmal retraction of the conductors of sound and the consequent mechanical pressure on the labyrinth fluid, then the removal of the means of such temporary increase of retraction and pressure ought to relieve tympanic vertigo. No method, however, but the surgical removal of the agents in this retraction will effect a cure of chronic tympanic vertigo.

The first chance of testing the truth of this theory offered itself to me in May, 1888. At that time I was consulted by a former patient with chronic catarrh of the middle ear, for the relief of constant tinnitus, and for recurring attacks of *severe tympanic vertigo*, which had been superadded to her deafness in the

[1] Gazette Médicale de Paris, Sept. 21, 1861.

[2] "Aural Vertigo." (Philadelphia Medical Times, June 3, 1882.)

left ear within the previous two years, during which time I had not seen her. Finding at that time that the malleus had become adherent to the promontory, I resolved to do, what so far as I know had never been done, for the relief of any form of ear vertigo, namely, to cut away the membrana tympani and the malleus in order to liberate the impacted stapes, which I felt sure to be the true cause of the vertigo in this case. This case and the entire success attending the operation have been fully detailed in other places. I would like to state here that the entire relief from tinnitus and vertigo which followed immediately upon the operation five years ago has continued to the present time.

I then operated during the following three years upon four more cases of chronic tympanic vertigo, consequent upon chronic catarrh of the middle ear, with entire relief in all of them.[3]

However, as in all of the cases more or less inflammatory reaction followed this operation of total excision of the membrana, I concluded that removal of the incus alone, or of the incus and the stapes, the membrana tympani and the malleus being allowed to remain in position, would liberate the stapes and the compressed labyrinth fluid as well as, or perhaps better than total excision of the membrana and the malleus, and probably would not be followed by inflammatory reaction; and the notes of the following cases will show that I was correct in my assumption. All the operations referred to in this paper were performed upon the etherized patient, the ear being illuminated by a six-volt electric lamp held on the operator's forehead. Of course, in all of these operations there has been the three-fold object to attain, namely, the relief of chronic tinnitus, deafness, and tympanic vertigo, the three results of chronic catarrhal otitis media.

Having alluded to five cases of total excision of the membrana for the removal of the incus and stapes without their notes, I will give some details of operations.

Case 1.—Miss T. of Virginia, 30 years of age, was first examined by me in June, 1892. The patient had been operated upon for nasal polypi six years before. Soon thereafter she had had typhoid fever and finally nervous prostration with uterine disease, for which latter she has just been successfully treated by a prominent gynecologist. All of these maladies just named cover a period of the last six years. The hearing began to fail about two years previous to the time of her first consulting me. At that time there was found some slight hypertrophic nasal catarrh, for which the patient was ordered to use a spray of Dobell's Solution, two or three times a week.

In November, 1892, when I saw the patient again I made the following notes: the right membrana tympani is retracted, opaque and of a bluish-pearl color. The incus-stapes articulation is not visible through the membrana. There is a constant tinnitus; the hearing for all sounds by aerial conduction equals zero, and the tuning fork is heard *per ossa* in the right ear. The external auditory canal is very narrow. On November 21 the patient was etherized and the upper posterior quadrant of the membrana tympani was cut away and the incus revealed. The incus was then detached from the stapes and removed from the tympanic cavity. The stapes was high placed and not seen. Had I made the incision a little higher the stapes might have been seen and an endeavor made to remove it.

On November 22, no reaction had taken place and the patient volunteered the statement that the tinnitus was decidedly less and that she could hear a little. On November 23 she heard a little better. There was no reaction in the ear and the tinnitus was further decreased. On November 25 there was a little more tinnitus than on the 24th but not so much as before the operation. On November 26 the patient could hear loud vocal sounds through an ear trumpet, which were inaudible before. There was now no tinnitus. On November 29 same report was made as on the 26th. The patient now returned to her home. After her return home she exercised this ear according to my directions, by having some one read to her through the ear trumpet once or twice daily for fifteen minutes at a time. This was done in order to insure passive motion of the stapes by a concentration of sound waves upon it.

In December, 1892, she reported that she could hear better with the ear trumpet; before she could not hear without it. In January, 1893, her father wrote me that his daughter could now hear reading in the right ear, unaided by the ear trumpet, and with the voice slightly elevated. There has never been any inflammatory reaction in this case. I am unable to say whether the perforation in the membrana has been maintained, as I have not seen the patient since her return to Virginia. A letter in April, 1893, informs me that still further improvement in hearing has taken place. Such progressive improvement in hearing as one of the good results of tympanic surgery, was first noted by Sexton of New York.

Case 2.—Mr. J. H. P., 23 years old, states that he has had chronic hypertrophic aural catarrh in both ears for several years. The left ear was formerly better than the right; the latter has improved under treatment of the naso-pharynx, but the left ear has not improved. The hearing distance in the left ear for the voice when I first examined him was one foot, and there was an annoying tinnitus. The membrana tympani was opaque. The incus-stapes articulation was not visible through the membrana.

On Dec. 15, 1892, the patient was etherized and the posterior superior quadrant of the membrana was excised. The incus, stapes, stapedius pyramid, and the tendon inserted in the stapes were then plainly visible. The tendon of the stapedius was first severed, then the incus was separated from the stapes and removed from the tympanic cavity. A blunt stapes hook was then passed beneath the head of the stapes between the crura and traction made. This bonelet was found to be most firmly imbedded in the oval window. Traction upon the stapes by means of the stapes hook brought away its head and crura. The operation was bloodless.

On December 16 no reaction had taken place and there was much less tinnitus. The hearing distance was not noted, as I did not see the patient that day. On December 17 no reaction had occurred and there was further marked diminution of the tinnitus. The hearing distance for the voice in low tones was from four to six feet. On March 28, 1893, considerably over three months after the operation the perforation in the membrana still existed. A little tinnitus was perceived in this ear if the patient took cold in his head; otherwise he did not observe any noise in his ear. He volunteered the statement that *the operation was worth the relief from the tinnitus, regardless of the improved hearing.* The hearing distance at the present time is from eight to ten feet for isolated words, there having been a *progressive improvement* in hearing since the time of the operation.

Case 3.—B. B., a girl 12 years old, has been known to have dullness of hearing in the left ear for two years. When brought to me in October, 1892, the right ear was entirely normal; the hearing in the left ear was zero; tinnitus and vertigo at times were very annoying. The tuning fork was heard *per ossa.*

On Dec. 16, 1892, the patient was etherized and excision of the upper posterior quadrant of the left membrana was performed. No bleeding followed. The incus, stapes, and stapedius pyramid, with the tendon were then distinctly seen. The stapedius tendon was severed first; then the incus was detached from the stapes and the stapes was removed whole from the oval window. There was no escape of labyrinth fluid. Finally the incus which seemed unusually adherent in the attic was removed. The operation was bloodless. On the next day there was no reaction, no vertigo, and the patient felt well and lively. She heard isolated words in the left ear at a distance of from eight to ten inches and there was no tinnitus. On December 22 there was no reaction and no regeneration of the membrana. The voice was heard in whisper at a distance of from six to eight inches, and louder tones two to three feet. There was no regeneration a month later. On April 1, 1893, regeneration of the membrana was found to have taken place. The hearing was not improved but there had been *entire relief from tinnitus and vertigo*, which symptoms had been ascribed to other causes before the ear was examined by me and operated upon.

[3] International Clinics, January, 1892.

This is the only case in the present series in which the stapes was removed entirely. The result was so good, in fact, so much better than in some instances in which the stapes was only liberated by removal of the incus, or only its crura were removed in addition to the removal of the incus, that I am inclined to think that in any case of tympanic vertigo, in which liberation or partial removal of the stapes does not give as much relief as is desired, puncture of the foot plate of the stapes in order to relieve the labyrinthine tension would be justifiable.

Case 4.—Mrs. T. R. G., aged 55 years, the wife of a physician of Clearfield County, Pa.; has had chronic catarrhal otitis media since childhood. The tinnitus has increased of late years, and she has been treated for several years by various physicians for neurasthenia without relief. Within a year or two, marked tympanic vertigo has set in and increased to *weekly attacks*, laying her up in bed whenever a paroxysm occurred. These attacks usually have come on in the house; sometimes in bed, but once lately the patient was attacked while out driving. These attacks of vertigo have been attended with increased tinnitus, nausea, and vomiting without loss of consciousness, the face and forehead being bathed with cold sweat. There has never been any aural treatment carried out in this case. The patient has been treated with purgatives and alteratives for debility and "neurasthenia," and has grown steadily worse.

Examination of the left ear in June, 1893, revealed a retracted membrana tympani with signs of sclerosis of the drum cavity. The incus and stapes were visible through the membrana. There was no catarrh of the nares, or naso-pharynx. The tuning fork was heard *per ossa* in the affected ear. Loud sounds could be heard near the ear. The right ear was good, but was said to be failing a little of late.

As the attacks of tympanic vertigo had now become so marked and distressing, her husband determined to seek relief for the patient by means of the removal of the force impacting the stapes in the oval window. Therefore, on June 7, 1893, the patient was etherized, and after excision of the posterior superior quadrant of the membrana, the incus, though held tightly in place by synechiæ was quickly removed. The stapes was found firmly and immovably fixed in the oval window and could not be removed, its head being broken off in the endeavor. There was no reaction in this case and the patient went home in a few days.

Three weeks after the operation her husband wrote that, "she has been getting on so well that we have somehow failed to report to you of her general improvement. The first week after the operation she had several very slight attacks of vertigo, but they passed off very soon and of late she has had no trouble whatever." She has been able to go about the house attending to her duties without the fear, even, of the hindrance previously experienced from the attacks of the tympanic vertigo. The tinnitus became much less and the hearing improved a little, but the great end had been attained, namely, the relief from the sickening and incapacitating chronic tympanic vertigo. On August 8, her husband wrote that there had been some attacks of slight vertigo since his last letter but nothing severe Before the operation the patient had been bedridden by the severity and duration of the vertigo. A letter of September 10 states that the patient is free from vertigo.

Case 5.—Sister M., a nun, 25 years old, states that she has suffered for several years from tinnitus, deafness, and tympanic vertigo, due to sclerotic otitis media of the right ear, following a chronic purulent otitis media which latter ceased years ago. In May, 1893, inspection revealed a perforation of the posterior superior quadrant of the membrana, with calcareous patches in the upper posterior and upper anterior quadrants of the membrana. The tuning fork is heard well *per ossa*, and isolated words were heard close to the affected ear. On June 28, 1893, patient was etherized and the perforation already existing enlarged and extended into the upper posterior quadrant, exposing the incus lying high up in the attic. The incus was then removed.

The next day the hearing for isolated words in an ordinary tone was two feet, and for whispered words from eight to ten inches. The patient was not seen again until July 20, 1893, when she reported that there was no more tinnitus, nor "swimming in the head." There had been no return of these symptoms by Sept. 1, 1893. The result in this ear has been so good that a similar operation is contemplated for the relief of dullness of hearing and tinnitus in the better ear.

Case 6.—Mr. C. C. T., aged 31, of Baltimore, stated July 18, 1893, that he had been affected with chronic catarrhal otitis media in the right ear for eight years, and in the left ear for four years. Within a year the tinnitus has become severe in both ears and the hearing has failed in both, the left ear being a little better for hearing, however, than the right ear. In addition to these symptoms there had been superadded the tendency to attacks of tympanic vertigo with temporary increase of tinnitus in both ears at the time of the vertiginous paroxysms. So severe have the latter been as to require the patient to hold on to the nearest object in the street to prevent him from falling. He has never vomited, however, in any of these attacks, but their severity and frequency have dispirited him and prevented him from attending to his duties as a book-keeper. For many months previous he had been treated for an asserted catarrh of the nares, naso-pharynx and throat, but the tinnitus, deafness and vertigo have grown worse rather than better. Examination revealed the membranæ tympanorum to be slightly retracted; the incudes visible through the membranes; the nares and naso-pharynx were not affected.

July 21, 1893, the patient was etherized, and I endeavored to remove first the right and then the left incus by exsection of the posterior superior quadrants of the membranæ. The right incus seemed to be firmly held in the attic and when traction was made on its long process it quickly broke off. No further attempt to remove the body of the incus was made, as the object sought, namely the severance of the retractive power of the incus from the stapes had been attained. I met with the same experience on the left side. The next day there was a slight reaction in both ears. The tinnitus was no better, and the hearing was perhaps a little duller in the left and better ear, but there was no vertigo.

The patient now returned to his home and reported to me in the course of four days that he had had no vertigo, but that he felt worse in his ears and that he had some fugitive pains in them with a little bleeding from one.

August 11, the patient reported a "slight improvement in hearing in the left ear, but none in the right." The tinnitus still continued, but there had been an "entire absence of vertigo." The left ear had pained him "quite a good deal and felt uncomfortable for the past day or two."

August 13, the patient's sister, a physician, reported to me that her brother had evidently improved in his hearing during the last ten days, and there had also been a great improvement in his spirits.

On Sept. 3, 1893, the patient wrote that the hearing in his left ear was much improved. He said: "I can hear conversation in ordinary tones about two feet, and if loud about ten feet. If the windows are open I can hear calls on the street. There is scarcely any singing in the left ear, and hearing in the right ear seems to be about the same as before the operation." There had been no return of the attacks of tympanic vertigo. The ear felt entirely comfortable.

It is noteworthy that in this case relief followed the severance of the retractive force by resection of only the long processes of the incudes; also *that most improvement in hearing and relief from the annoying tinnitus ensued in the better ear.* This is due to the fact that greater mobility of the stapes had persisted in this ear than in the worse ear, and hence liberation of the freer stapes and the passive motion exercised upon it by sound waves have improved the function of hearing in this ear more than in the worse ear. The result in this respect should encourage the surgeon to operate upon both ears, or upon the better ear rather than upon the worse ear alone, when both are so profoundly affected as in this case. Most important is it to observe the *progressive improvement* in this case, as in some of the others. This must be due to the effect of the continuous passive motion exerted upon the ankylosed stapes by sound waves which fall upon this bone more freely than before the operation. It may, therefore, be concluded:

1. That removal of the retractive force of the

sound conductors upon the stapes is the efficient means of relieving the tinnitus, deafness, and vertigo due to the lesions of chronic catarrh of the middle ear.

2. That the removal of the retractive force upon the stapes can be accomplished efficiently and simply by removal of the incus alone, and even by resection of its long process.

3. That the improvement in these cases is due to the liberation of the stapes from the retractive power of the tensor tympani muscle, and the consequent unimpeded action of the stapedius muscle, which relieved of the antagonism of the tensor tympani tends all the more to draw the stapes from the oval window, thus aiding in the isolation and improved mobility of the bonelet, as well as in removing its undue pressure inward upon the labyrinth fluid.

4. It seems wiser, therefore, in most cases of chronic catarrhal deafness, tinnitus and tympanic vertigo, not to sever the stapedius tendon and remove the stapes, but to be content with the removal of the incus only.

5. Removal of the incus alone, the membrane, malleus and stapes being left in situ, gives more space to the drum cavity, *increases its resonance*, and permits freer access of sound-waves to the stapes, thereby improving the hearing.

6. The progressive improvement in the hearing noted in many instances, especially in Case 1, must be due to the continuous passive motion exerted upon the ankylosed stapes by sound waves, which are enabled to reach this bonelet more freely after the removal of the incus.

SOME NEW METHODS OF TREATING CHRONIC SUPPURATIVE OTITIS MEDIA.

Read in the Section on Laryngology and Otology, at the Forty-fourth Annual Meeting of the American Medical Association.

BY F. C. HEATH, A. M. M.D.
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No apology is needed for proposing any new methods of treating a disease so intractable, in many cases, as chronic suppuration of the middle ear. That the methods about to be mentioned, in connection with a few cases cited, give miraculous results, are superior to all others or are applicable to every case, I am far from claiming, but they have certainly proved efficacious in some instances. A few cases will serve to illustrate these methods (perhaps more properly called modifications of one general method).

Case 1.—Miss P., Indianapolis; nurse, aged 34, came to me Oct. 25, 1892, with history of pain in right ear for about a week. Had been treated for nasal catarrh for nearly a year by a competent specialist. No physical signs of phthisis discovered, but stated that she had had several hemorrhages. Bone conduction was better than air conduction. Watch heard but two inches from right ear. Considerable pus found in canal. Inspection after cleansing showed moderate perforation of membrana tympani in the anterior inferior quadrant. Used 5 grain solution of nitrate of silver in office (Buck's method) and advised warm water syringing and boric acid at home; later, weak solution of alum and zinc sulphate. Discharge ceased after one month's treatment but soon reappeared and proved very obstinate. After faithful trial of solution of silver and later of bichlorid of mercury with little (if any) improvement, papoid was resorted to January 9, its use being suggested by the favorable reports of the use of digestive ferments, in the treatment of ulcers, given in our journals. Two days after there was no discharge and treatment was discontinued. The discharge reappearing two weeks later and not yielding promptly to papoid (although somewhat modified by it), dermatol was employed after Buck's successful method with iodoform, that most recent substitute for the latter having been used by surgeons with so much success and satisfaction with no drawback from an olfactory sense. A few applications stopped the discharge entirely and it has never returned, over four months having elapsed since treatment ceased. Tinnitus aurium still gives occasional trouble, much less than formerly. Watch now heard distinctly three feet.

Case 2.—Mrs. F., Rockville, Ind.; troubled with deafness of left ear and discharge (at intervals) for many years. Watch heard only on contact. Drum membrane almost entirely destroyed. Granulations in middle ear and masses of hardened discharge. Patient troubled also with numbness of limbs and bad general condition; neurasthenic. Fellows' Hypophosphites and iodid of iron pills were prescribed for constitutional treatment. A little of the discharge was removed by syringing and papoid blown in; same treatment daily for several days. Discharge soon became liquid and very profuse. There was tenderness of canal and severe pain for a short time. This was controlled by hot water syringing, pain and discharge both ceasing quite promptly, numbness disappearing and general condition improving. Effect upon granulations unknown, patient not having been seen since the above treatment.

Case 3.—Miss C., Indianapolis; referred to me Jan. 2, 1893, by a general practitioner, who had partially removed a polypus from left ear. Hearing was very bad; pressure only. Considerable discharge for a year previous. Inspection showed polypus coming from middle ear through perforation near center of membrana tympani. This was removed, partly by snare and partly by caustics. After using silver, bichlorid of mercury and other solutions for some time without much effect, papoid was applied by means of moistened applicators, followed by insufflation of boric acid. A few weeks of this treatment possibly checked the discharge a little and modified its character. Dermatol was then resorted to with good effect; the discharge immediately lessened and after a few applications ceased entirely about the last of February. The hearing was but slightly improved.

This patient returned lately with a discharge from the other ear (right), neglected for over a month. This is gradually yielding to similar treatment, peroxid of hydrogen having been used, in addition, for cleaning the ear at the office. The left ear started to discharge again since she placed herself under treatment for the right, but the discharge has been easily controlled by the peroxid of hydrogen, pepsin and dermatol.

Case 4.—Miss D., Indianapolis; aged 20, discharge from both ears, for eight years, following scarlet fever. Hears watch six inches with right ear and four inches with left. Polypus in latter gradually removed with caustics. Right membrana tympani nearly destroyed. Boric acid, silver solutions, etc., seemed to have but slight effect upon right ear. Pepsin somewhat modified the character of the discharge and it is now gradually lessening under the use of peroxid of hydrogen for cleansing, followed by dermatol. This is a very obstinate case, having been under treatment (somewhat irregularly) for four months; although there is still some discharge, it is much less in quantity and less offensive in character since beginning the present line of treatment. The hearing has also improved very considerably.

Case 5.—Miss O., Indianapolis; considerable ringing and buzzing, with slight pain, in right ear. Hears watch four inches with this ear, fifteen feet with left. Bone conduction better in right, air conduction in left. Examination shows masses of hardened secretion in right canal. This has been gradually softened by using peroxid of hydrogen, followed by pepsin. The discharge is now liquid and is being checked by degrees with the use of peroxid of hydrogen and dermatol. The hearing is improving and the ear is much more comfortable.

The use of papoid, or pepsin, in the ear (so far as I know) has never before been reported. When I began to use dermatol, I had seen no mention of its use, either, in aural affections, but have since seen three reports. Dr. Doenberger was unable to come to any conclusion respecting its action; Dr. Davidsohn of Berlin, tried it in fifty cases, some of which improved very rapidly and a few improved after unsuccessful treatment with boracic acid, yet he thought the results on the whole no more satisfactory than those obtained from using boracic acid; on the other hand, Dr. Stone of Boston, reports Dr. Jack of the Massachusetts Eye and Ear Infirmary, as believing that "healing was materially hastened in cases treated with the dermatol, where formerly

he would have used the boracic acid." My limited experience, so far as it goes, inclines me to indorse the opinion of Dr. Jack, and I also believe that papoid and pepsin may frequently be employed with advantage. I am aware, however, that the few cases above reported are far from being conclusive, and the only value to be hoped for in connection with this report is, that it may prove suggestive, leading to more complete reports from competent observers.

SOME REMARKS ON THE OPERATIVE METHODS IN THE TREATMENT OF ADENOID GROWTHS.

Read in the Section on Laryngology and Otology, at the Forty-fourth Annual Meeting of the American Medical Association.

BY C. W. RICHARDSON, M.D.

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It is not my intention in this paper to give a resumé of the operative methods in the treatment of adenoid growths, nor a historical outline of its gradual development and improvement; but simply to describe the operative method I have now employed for several years in the treatment of this condition. In the various steps of the operation I claim nothing original; my originality, if any exists, arises from the manner in which the successive steps are made to interlace. It is with growing interest that I have watched, year by year, the rapid increase in the number and variety of forceps and curettes for the operative removal of these growths, until my interest has become satiated with their multiplicity. Many of these inventors seem to have overlooked the fact that nature has endowed them, not only with the safest and most complete, but also the most sensitive instrument for this work. My method of operative procedure is as follows:

The child is prepared for the operation in a general and local manner, as all good surgeons prepare their patients when about to resort to operative methods. I prefer always to give a general anesthetic, as I consider the operation not only extremely painful, but excessively alarming to the little one. I prefer ether, because I consider it safer; although I do not object to chloroform, should others insist upon its use. I do not consider the A. C. E. mixture reliable. It is stated by many that ether produces an excessive flow of salivary and mucus secretion into the mouth, and that it also increases the amount of hemorrhage, by producing turgescence of the head. The former condition I have never seen to an annoying degree—very rarely any increase over that which would be produced by the use of chloroform. I have never had what I could call more than a normal amount of hemorrhage after any of my cases, and therefore can not give any evidence as to the latter assertion. My patient, prepared for the operation, is etherized in the recumbent position. The etherization is carried to the point of complete abolishment of all inflexes. After the stage of excitement has passed, the ends of the sheet, upon which the child has been lying, are brought over and the arms and legs firmly pinned therein. When the corneal inflex has completely disappeared the etherization is entirely suspended. The child is now placed in the erect position, in the arms of an assistant who has been seated waiting to receive the patient. The assistant encircles the child with his left arm, supports its head with his right hand, and hugs the lower extremities of the patient between his clasped thighs—in this manner the child is firmly held. The gag is now placed in the child's mouth and held by the assistant. Holding the head with the right hand the index finger of the left hand is rapidly passed up behind the soft palate and the growth quickly torn away from all points of attachment. The nail of the finger must be a little prominent, as it is often necessary to tear and cut as well as crush the growth. The blood now commences to flow quite freely from the nasal and buccal cavities, and it is well at this stage of the operation to incline the child slightly forward, so that the blood and broken-down tissue can more readily flow from the nose and mouth, until the operation is completed. The operation is completed in a minute or so, and the child is held forward in the inclined position until hemorrhage has about ceased. I always have a large mouth cuspidor in front of assistant, so that the blood flowing from the patient's mouth and nose can be caught therein. The patient, now partly conscious, is cleaned of all blood about the face and put to bed. Many object to the erect position in operating upon these growths, for fear that blood will flow into larynx and interfere with respiration. I will state that no one has cause to dread such an occurrence. In the four hundred and more cases that I have operated upon in this position, I have never yet had the slightest indication that a drop of blood ever entered the larynx. There is much more danger of the blood entering larynx and causing an arrest of respiration when the patient is placed in either the supine or prone position. I have operated on several patients where other operators have been obliged to suspend interference before finishing, on account of dangerous and alarming dyspnea; and in conversing with others, I find that such a state of affairs is of no rare occurrence. The use of the finger for the various forms of forceps and curettes was a gradual innovation with me. The first hundred cases I treated entirely with forceps and curettes, requiring prolonged instrumentation and frequent introduction of finger, to learn whether all of the growth was thoroughly removed. Often I would, after removing several masses with forceps or curettes, finish the operation with my finger, and later on, I gradually found that although always getting ready my forceps and curettes I rarely took them in hand, finding that after the introduction of my finger the growths were so easily crushed and scraped away that I finished the operation with the finger. Now I never use the curette; only using the forceps when, after scraping away the greater mass of tissue, there seems to be one or more fibrous bands resisting and slipping away from the finger. These I tear away with forceps.

In most children, between the ages of two and ten years, these growths are so soft and gelatinous-like in their texture that they readily yield to the pressure of the finger and the cutting of the finger nail.

The advantages that the use of the finger offers over many forms of instruments are manifold:

1. The rapidity with which the operation can be done, requiring only the use of a small amount of ether.

2. The exactness with which the operator can work,

as his tactile sense gives him complete knowledge of what he is doing and where he is working.

3. The complete absence from all possibility of injuring normal parts or tearing away normal tissue.

4. The comparative freedom from hemorrhage, as only adenoid tissue is removed and the normal mucous remains uninjured.

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CASES OF LARYNGEAL NEOPLASMS.

Read in the Section on Laryngology and Otology at the Forty-fourth Annual Meeting of the American Medical Association.

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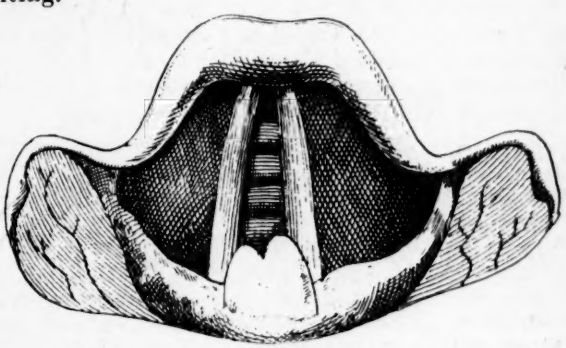
The following cases are reported, not with the view of adding anything new to the already extensive laryngeal literature, but for the purpose of placing on record two interesting cases:

Case 1.—A. K., female, age 21 months, was brought to my office Aug. 22, 1892, having been referred to me by Dr. Blickensderfer of Denver. The child presented all the evidences of laryngeal dyspnea with marked stridor and especial embarrassment in inspiration. The voice was aphonic and there was a slight cough. The general condition of the child was bad; her appetite was poor; she was anemic, weak, with a rapid, small pulse. The following history was obtained: at birth the little one required resuscitating, which was accomplished in about one hour with great difficulty. After this, the voice and respiration were good until at the age of about 8 months when, with the beginning of dentition there developed some difficulty in breathing, lasting until the first tooth appeared. At the same time the voice was lost but was soon restored, although imperfectly. At the age of 13 months there was a return of the dyspnea, at which time the attack was worse than before and lasted about one week. The voice was now left less clear, and from that time gradually became aphonic. At the age of 16 months another and very severe attack occurred, which was termed by attending physicians "croup," this being the first diagnosis ever made in the case. The child never fully recovered from this attack, but was left completely aphonic, with more or less difficulty in breathing at all times, the dyspnea being frequently exacerbated and often associated with fainting spells. The case had been seen by many physicians in Iowa, and the diagnosis of asthma often made. A change of residence to Colorado was ordered.

The evidences of laryngeal obstruction being clear, a laryngoscopical examination was attempted but, notwithstanding the greatest perseverance, could not be accomplished. A digital examination was also unsuccessful in determining the nature of the case. Tonic and anti-spasmodic treatment was instituted, with a view to gain more time and attempt subsequent examinations. Three days later, at midnight, a hasty summons took me to the little one whom I found cyanotic and rapidly suffocating. The case had appeared to be one of either laryngeal paralysis or papilloma. I had previously decided to intubate in either case. This was easily accomplished with the smallest tube and the relief immediate and grateful. August 29, four days later, the tube was coughed out, its re-insertion, however, being demanded the following day. At intervals of three days the tube was expelled and re-inserted. September 11, the next size tube was placed in the larynx and remained in situ until November 28, a period of sixty-eight days, during which time the child gained in weight, ate well without the slightest difficulty and improved remarkably. The tube was now removed but its removal was followed by immediate and alarming apnea. Artificial respiration and stimulation resuscitated the child in about twenty minutes, and the breathing became quite easy. The following day, however, surgical interference was urgently called for and the same tube placed in the larynx. March 20, 1893, the child was found suffering great dyspnea, the attack having come on gradually with several remissions, during the previous three days. The intubation tube was found in situ and evidently unobstructed from the fact of free expiration. It had been in place 111 days without removal. Tracheotomy was earnestly advised, but not acceded to by the mother until the child was unconscious, when it was rapidly performed, not without a good deal of hemorrhage, however. The tracheal opening was held open by a silk thread until a canula could be obtained, the operation having been demanded without loss of time. Following the tracheotomy the respirations became more tranquil but the dyspnea was not entirely relieved. On inserting the tracheal tube the breathing became more embarrassed and remained so despite the prompt removal of the canula. A digital examination revealed the fact that the intubation tube which had been allowed to remain in the larynx had disappeared, probably into the trachea. A pair of McKenzie's laryngeal forceps passed into the trachea came into contact with the lost tube and its withdrawal was at once followed by complete relief. During the operation and examination for the cause of the dyspnea, the presence of soft irregular growths was determined by the finger. These appeared to occupy a considerable portion of the larynx, both above and below the vocal bands. No attempt was made at their removal, owing to the low condition of the patient from loss of blood and the continuous dyspnea. With the exception of great weakness and several severe convulsions, during one of which the respiratory muscles seemed fixed, the patient made a good recovery and is now gaining rapidly in point of general health.

The patient is now but little over two years old. The question of performing laryngotomy and removing the neoplasms, or waiting for an opportunity to perform an intra-laryngeal operation, or for the not impossible spontaneous expulsion of the growths, is an important and interesting one. The dangerous consequences of thyrotomy, both as to the life and subsequent voice of the patient, have been well considered. Intra-laryngeal removal can successfully be accomplished at a very early age, Rice[1] having performed it at five years and Hovell[2] at three and one-half years, this being probably the youngest on record, while the case of Boylan's[3] at ten years is an example of what can be done by a few years of waiting.



Extreme Abduction.

That spontaneous cure of papillomata is quite possible, is illustrated by the case of Major,[4] in which a quantity of the growths was expectorated, and the cases of Hunter McKenzie,[5] Eliasberg,[6] Oertel,[7] Lowman,[8] White[9] and Garel.[10] Massei[11] shows that many papillomata may disappear because of their being more properly granulomata. Browne,[12] by enjoining absolute silence and applying cold prevented recurrence, while Eliasberg believes the removal of the respiratory process from the larynx withdraws certain irritant factors.

It is interesting to note the results of treatment for papillomata by intubation, and incidentally the use of this method in other conditions besides croup and diphtheria, as well as the length of time a tube may remain in the larynx without doing any harm. Seifferts[13] reports a case in which intubation was done after thyrotomy for papillomata. Massei[14] used it in one case; Lichtwitz[15] recommends a fenestrated

tube to assist in intra-laryngeal treatment of these growths and other conditions. Petersen[16] shows failure in one case treated by intubation. Waxham[17] reported an interesting case before this Section at its last meeting, at which time Thrasher[17] also showed the value of intubation in papillomata. The case reported by C. H. Knight,[18] and that of Raynor,[19] are also noteworthy in this connection.

Among the various chronic conditions for which intubation has been mentioned, we find ankylosis of laryngeal articulations from cancer,[20] abductor paralysis,[21] syphilis,[22] sub-glottic neoplasms,[23] to assist in removing foreign bodies,[24] tuberculosis,[25] after tracheotomy,[26] stenosis following diphtheria[27] and stenosis following fracture of the larynx.[28]

The length of time an intubation tube may, without doing serious if any harm, remain in the larynx does not seem to have, as yet, been settled. In fact continual surprises in this respect confront us. In one of O'Dwyer's[29] cases the patient did not suffer from retention of the tube for a period of ten months and four days. The case of Waxham's[17] already quoted, retained the tube four years; Schmiegelow's,[26] one year; Dillon Brown's,[27] nine months; C. H. Knight's, three months; Brother's,[30] fifty-eight days; McCurdy's,[31] forty days. In most of these cases the tube was removed every month or two, Dr. O'Dwyer's, however, remaining continuously ten months and four days. In the case here reported, the tube was retained continuously for sixty-eight days, then removed for twelve hours and again retained for 111 days, a total of six months and twenty-three days. Feeding was normally performed after a few days' retention, and there was absolutely no discomfort notwithstanding several attacks of colds and coughs.

The noteworthy points here are: 1, the occurrence of a growth, probably not congenital, in a child 8 months old; 2, the apparently negative result from treatment by intubation; 3, the length of time the tube was continuously retained without any discomfort.

Case 2.—G. L., male, age 16 years, was referred to the Department of Laryngology at Gross Medical College, Feb. 26, 1891, by Drs. Bull and Butler of Grand Junction, Col. The following history was obtained:

His occupation was that of a farmer. His health up to the present illness had always been perfect. His family history revealed nothing of importance. Early in the winter he had had an attack of typhoid fever which had lasted about nine weeks. During the last three weeks of his illness his voice was hoarse and there was slight difficulty in breathing, but no pain except upon coughing. Soon after his convalescence there developed some dysphagia upon taking liquids, a slight cough; followed by occasional sharp and sudden pains, loss of weight and rapidly progressing weakness.

A week previous to his arrival in Denver he had an attack of la grippe, since which all symptoms have been greatly exaggerated, more particularly the difficulty in respiration, which upon the slightest exertion causes the patient great suffering.

Upon examination the boy presents an anemic, almost cachectic look, marked dyspnea with decided stridor which is constant. His voice is dysphonic and his cough gives forth a loud barking sound; pulse 140; temperature 97½ degrees F. at 3 P.M. The laryngoscope shows both vocal bands red and near the median line. The left is visible in its entire length; the right is covered at its posterior attachment by a small, light red, lobulated, smooth growth, the lobulation dividing its surface into two unequal parts. Upon phonation the growth is partly in the chink of the glottis, and upon forcible inspiration the vocal bands are but slightly abducted. They are not completely fixed but can be separated about one-fourth inch, during which time the tumor fills up the posterior portion of the chink. The left vocal band seems slightly less movable than the right, notwithstanding the position of the tumor. The diagnosis of partial bilateral posticus paralysis with some form of laryngeal tumor, probably fibroid, was easily made. Without preliminary training, but under cocain anesthesia, an attempt was at once made, with a McKenzie antero-posterior forceps to remove the tumor, which under the existing paralytic condition seemed responsible for much of the dyspnea, despite its small size, it being about as large as a green pea. The first effort was unsuccessful and brought on at once a severe spasm of dyspnea. Before making another trial, preparations were made for a possible tracheotomy. This, fortunately, was unnecessary, as about three-fourths of the growth was removed without any difficulty, the result being immediate relief to the breathing. The stridor still persisted but was less marked. The following day the remaining portion was readily and thoroughly removed and the patient was at once placed upon a tonic of iron, quinin and strychnin with the faradic current applied to his larynx, both internally and externally. After two weeks' treatment the patient returned to his home greatly improved, but still showing considerable dyspnea on exertion. The cough and pain had disappeared, the voice was clear only at times, being less so in the morning. A letter dated May 12, 1891, informs me that he is not yet able to work on account of short breath. Another letter, Nov. 17, 1891, tells me that he has had electricity applied to the larynx externally until July and has faithfully taken his tonic. His breathing is better, he can do light work, his voice is nearly normal. A letter received April 15, 1893, shows the patient to be in perfect health, voice and respiration unimpaired.

The larger portion of the tumor was frozen, sections made, stained and examined by Dr. A. S. Lobingier, then Professor of Histology and Pathology in Gross Medical College, and pronounced by him a spindle-celled sarcoma.

The cause of abductor paralysis is always an interesting though uncertain subject. In this case it can be considered that, the larynx being involved in the typhoid fever, there was set up a peripheral neuritis, as mentioned by Tissier[32] and others. Whether we accept the proclivity theory of Simon or not, the fact remains that abductor paralysis follows central lesions, as well as lesions in the course of the inferior laryngeal nerve. Local disturbances also play an important part in the etiology, for cases due to myopathic cause, to rheumatism, to localized pressure, are not rare. Among the most interesting causes might be mentioned hysteria, as reported in the case of West's[33] and Bandler's,[34] and reflex disturbances from nasal and post-nasal troubles, as in Stewart's[35] and Robertson's[36] cases.

In regard to sarcomata, these are not of frequent occurrence in the larynx. Bosworth[37] collects forty-seven cases; additional cases are reported by Wright,[38] Browne,[39] Scheinmann,[40] Lentiagne,[41] Toeplitz,[42] Hjorth,[43] Cutter,[44] Schnitzler-Frisch,[45] Bissell-Hagen[46]; and while they occur early in life, more frequently than do carcinomata, there are but a few cases on record under 20 years of age. Bosworth[37] records the case of Caselli at 19 years, Browne[39] one at 9 years, Carlos Labus[47] one at 13 years, forming, with the one here reported at 16 years, four under 20 years of age.

The intra-laryngeal method of removal is quite universally condemned, although the cases of Scheinmann, Toeplitz and Labus were thus cured.

The points of special interest in this case are: 1, the rare combination of paralysis and sarcoma, only one other case, by Cohen,[48] of paralysis and tumor being recorded; 2, the cause of the abductor paralysis; 3, the occurrence of a rare form of laryngeal neoplasm; 4, the age of the patient; 5, the apparent cure, after two years, by the intra-laryngeal method.

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CHRONIC NASO-PHARYNGEAL INFLAMMATIONS, AN ETIOLOGICAL FACTOR IN THE DISORDERS OF DIGESTION AND EXCRETION.

Read in the Section on Laryngology and Otology, at the Forty-fourth Annual Meeting of the American Medical Association.

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To maintain the highest standard of health, it is of the greatest importance that the alimentary mucous membrane and its anatomical structures should retain their physiological activities. For upon the perfect performance of the functions of the gastro-intestinal mucous membrane, assisted by the glandular secretions of the liver and pancreas depend the processes of digestion, absorption, perfect blood construction, and the maintenance of healthy nutrition. Any pathological deviation from the physiological standard can only result in a corresponding impairment in structure or function, proportionate to the extent of membrane and structures involved. Owing to the sudden and frequent fluctuations of temperature and humidity in the lake regions, it is difficult to find a child, who at the age of seven years does not present advanced proliferative inflammation of the nasal mucous membrane. A hypertrophic catarrhal inflammation not infrequently develops simultaneously, or is concomitant with, the exanthematous fevers. The portion of mucous membrane primarily involved is the anterior tips of the inferior turbinated bodies, extending usually along both lower and middle turbinateds to their posterior aspects in the naso-pharyngeal space. The activity of cell proliferation, and resultant hypertrophy of the turbinated bodies provoke irritations; and hypersecretion of mucus follows, which gravitates into the naso-pharynx. As the process of the inflammation advances in the nasal cavities, it extends by continuity of structure along the mucous membrane of the naso-pharynx, thus increasing the area of excessive mucus production, which of necessity gravitates along the posterior pharyngeal wall, until it reaches the oro-pharynx, in which location it is found to have lost its watery consistency, by the evaporation sustained in its passage over a superheated and inflamed membrane, causing it to become thick, tenacious and adherent. During the process of ingestion, adhesive mucus contaminated with microörganisms, and products of decomposition from various sources, are conducted into the stomach in the act of deglutition, along with food and drink.

Mucus being a ferment, will in presence of starchy and saccharin material, develop pathological fermentation of the gastric contents. The persistence of this condition will in due time (owing to the irritative nature of the fermentation products) develop inflammation of the gastric mucous membrane. With inflammation of the organ derangement of function follows, a vitiated secretion, abnormal in quality or quantity takes place, the chyme is imperfectly formed, toxic and intermediate sub-oxidation chemic compounds are developed; all of which reduce the nutritive value of the gastric and intestinal contents, and aggravate the local distress. Defectively formed chyme, laden with toxines or leucomaines, when subjected to the digestive fluids in the duodenum and jejunum, will in turn so interfere with the chemic, digestive and bacterial influences of the normal processes, as to retard their oxidations and metabolic transformations; in short, producing a chyle of low nutritive value, surcharged with morbid products in consequence of imperfect chemic action, invariably resulting in sub-oxidized, toxic, chemic compounds. If these conditions continue to exist, the development of an inflammation of the intestinal mucous membrane, of a low grade of action, would only be a question of time.

Mucus being the normal secretion of the mucous membrane, when excessively increased in quantity, due to irritation or inflammation, it becomes the mildest product of the inflammatory exudations. By persistent irritation, the inflammation of the mucous membrane increases in severity and extent until its mucoid transudations and fermentation products exert a morbid action upon the entire assimilative portion of the intestinal mucous membrane. These conditions often continue for a long period of time, by a low grade of action, and it is only after the individual becomes sufficiently debilitated by deficient nutrition, that the nervous system gives the alarm of impending danger. This may not occur until anemia has placed its stamp upon the patient.

Another important influential factor, in part responsible for the failure of complete and final oxidation of chemic products, as they appear in the blood, in consequence of defective intestinal, interstitial and intra-cellular oxidation, is directly attributed to deficient respiratory action, (nasal and

pulmonic) whereby the blood corpuscle does not obtain the necessary oxygen for the conversion of its hemoglobin into that of oxy-hemoglobin. It is to the oxygen-carrying function of the hemoglobin of the red corpuscles of the blood, that we owe the completion of the chemic oxidations of the incompleted sub-oxidation compounds therein contained; whether such substances are destined for tissue reconstruction, or for excrementitious elimination. It is here, also, where further oxidation is required to bring about the normal changes in peptones, leucomaines, etc. So that the liver as a gate-keeper for the portal circulation, may be able to completely elaborate the albuminoid products for nutrition and excretion, and restrain those compounds from entrance into the general circulation which are detrimental to the organism; pending such chemic action or change as to render them safe for nutritious distribution, or harmless for excrementitious elimination. Under such conditions, the patient, when subjected to the exposure of sudden changes of temperature or humidity, excessive indulgences or fatigue, may by any change in the normal activities, or by defective eliminations through the emunctories, experience a chill, and a rheumatic fever follow. Or a neuralgic condition may develop in consequence of retained poison in the system, acting as an irritant to sensory nerves.

By such retention of toxic material in the blood, auto-intoxication is almost without limit, in its evil effect upon the tissues and structures of the human body. In this manner, a large percentage of the insomnias, many of the mental conditions, as morbid fears, melancholia, irritability of disposition, hallucinations, impaired memory, etc., are satisfactorily accounted for.

In conclusion, chronic naso-pharyngeal inflammations are autogenetic in the development of secondary diseases of the gastro-intestinal mucous membrane, through deglutition of mucoid products or by continuity of structure, and by reflex action. The removal of the primary lesions will correct, relieve or cure, secondary remote effects of the digestive, broncho-pulmonary or nervous systems.

Further, owing to the perverted chemic, bacterial, and digestive processes of the small intestines, the more or less extensive chronic catarrhal inflammation of the intestinal mucous membrane and glandular structures, the absorption of a deteriorated chyme and chyle is continuously going on, blood deterioration and contamination is constantly taking place, the circulation conveying poisoned blood for distribution, by nutritious arteries, to the various tissues and structures of the body.

Is it, then, a wonder that the telegraphic system should give a painful neuralgic alarm, as an indication of deprivation of some structure? Is it a surprise that the delicately constructed nervous system should fail to render good service, in the innervation of the muscular fibers of the intestines, rendering them defective in their vermicular activities, and in a like manner fail to cause glands and ducts to give up their secretion?

To this failure is attributed the common complaint, constipation. From defective digestion with development of gases (abnormal fermentations) cardiac palpitations frequently occur. From incompleted nitrogenous transformations, we obtain uric acid and urates, instead of the completed product, urea. From incomplete oxidations of the starchy and saccharin material, we obtain oxalic acid and oxalates, instead of carbon dioxid and carbonates. The transportation of such products through the renal system, is a prolific cause of renal and vesical irritations and inflammations. Such irritations and inflammations give rise to not a few distressing symptoms, viz., lumbago, myalgia, despondency, melancholia, frequent micturition, dysuria, etc. There can be but little doubt, that a large proportion of structural, renal and cystic diseases take their origin from a continuous toxic and irritant urine. To the incomplete oxidations we owe the origin of uric acid and urates, oxalic acid and oxalates, which we find constitute the nuclei and substance of renal and vesical calculi.

As near as I have been able to ascertain, fully 66 per cent. of renal calculi are composed of uric acid and urates, oxalic acid or oxalates, separately or combined in alternate layers, but almost invariably containing a uric acid nucleus. These are considered by Prof. Christian Fenger, as aseptic calculi. While the largest percentage of the vesical calculi are composed of phosphates, either separate, or in combination with urates and oxalates, these are most frequently secondary to inflammation, with decomposition of urine, and hence may be considered as septic calculi; but in some cases the phosphatic constituents are due to excessive nerve disintegration.

It is, therefore, of the utmost importance to recognize the necessity of maintaining the mucous membrane of the body in a healthy and physiological condition. It is the one great essential in health, and it is equally essential, to approach as near as possible to the physiologic condition in the treatment of disease, if the physician desires to obtain the greatest success.

THREE CASES OF REFLEX NEUROSES ORIGINATING IN THE NOSE.

Read in the Section on Laryngology and Otology, at the Forty-fourth Annual Meeting of the American Medical Association.

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It is my intention to place the following three cases of reflex nervous phenomena before you with little or no comment. They are each striking in their way, and well worthy to be put on record. The first case was as follows:

Case 1.—Mrs. P., a nurse, age 28; anemic and of a nervous temperament. She complained of failing sight; had difficulty in reading the clinical thermometer. For this trouble she had consulted Dr. Bettman, who referred her to me. The treatment which she received previous to the time of her consulting me will be given in Dr. Bettman's notes which follow, and for which I now take the opportunity of expressing my thanks. I found on examinatien that there was a slight congestion of the palpebral conjunctiva, but the most striking feature was the difference in the size of the pupils, the left being dilated to twice the size of the right. On examining the nose I found in the left side a slight congestion of the mucosa covering the middle concha, while the anterior fourth of the middle turbinate was the seat of an enlargement about the size of a small gooseberry, quite hard, and bleeding easily when touched with a probe, being partially denuded of epithelium. This growth was shown to be a hard hypertrophy under the microscope. The pressure caused by this hypertrophy against the septum was so great as to make the passage of a probe through the fissura olfactoria quite difficult. The examination of the right nostril gave negative results. I determined to remove the hypertrophy by means of the cold snare. After cocain-

izing thoroughly with a 10 per cent. solution, I noted no change in the dilated pupil, but this did not influence me in any way, as the cocainization had little or no effect in diminishing the hypertrophy. There was nothing of moment in the operation. The day after, the pupillary dilation was greatly reduced; two or three days afterward the dilation was as great as ever, but I could justly account for this, by the fact that the pressure of the scab covering the point of operation was as great as that of the original hypertrophy; I did not take this away at once, but waited two or more days and then removed it, after which the pupillary reaction gradually became normal.

Allow me to add that in this case I found a hysterical deafness, that is to say, the watch, speech and tuning-fork tests gave normal reaction; but, as she said, "while she could hear what was said, she could not always understand, and was obliged to have sentences repeated." I would like to say too, that I was not sure that the pressure caused by the hypertrophy was the cause of the pupillary dilation, but there were ample indications to justify me in the removal of the pressure. The results were gratifying.

Case 2.—Miss B., a nurse, aged 27, was also of a rather nervous temperament, but not so markedly as in the first instance; the left pupil here was dilated to 7 mm. The right measured but 4 mm in diameter. On examining the left nostril, a diffused redness of the mucous membrane was apparent. There was no hypertrophy, but the anterior head of the middle turbinated body was so bent as to produce marked pressure against the septum. Having the experience of the previous case before me, I determined to remove as much of the turbinated as caused the pressure, which I did by means of cutting forceps; the results in this case were not so satisfactory as in the first, as the pupillary dilation diminished only gradually, and the last time I saw the patient, while it was greatly diminished in size, the left pupil was slightly larger than the right.

Dr. Bettmann's Notes:

Case 1.—Mrs. P. came to me in May, 1892, complaining of inability to read the markings of the thermometer. Upon examination I found the following conditions: Vision, both eyes equal to 20-20, accepted + 0.5D both eyes. Right pupil dilated (medium); left pupil one-half again as large. No reaction to light or on convergence. Can not read ordinary newspaper print. With × 1.5D reads fine print at twelve inches; muscular equilibrium normal; ophthalmic examination negative. Diagnosis: paralysis of sphincter muscles of irides and accommodation. No history of diphtheria, rheumatism, or syphilis. Recommended galvanic current and injections of strychnin. This treatment was carried out for two weeks, without producing any improvement in her condition. I then referred her to Dr. Pierce, who operated with instantaneous effect on the ocular symptoms. The day after the operation the pupils were normal in size and reaction and she read the finest type at close range. A few days later—as soon as a crust formed over the wound—the abnormal conditions of the eye returned, to disappear again permanently as soon as the scab came away.

The changes in Case 2, Miss B., were similar to those already reported; the reaction to light very slight on convergence. Vision= 6-12, with × 1D. V. 6-6 both eyes. Can only read fine print with her glasses. The ophthalmoscope revealed nothing abnormal. Advised the patient to consult Dr. Pierce for examination of the nose. Dr. Pierce operated, and the operation was followed a week later on exposure to cold by an acute catarrhal otitis media and a mastoid-periostitis, both of which yielded readily to treatment. The ocular symptoms had previously disappeared.

A third case I wish to report, was a patient referred to me by Dr. Fenger of Chicago. A farmer from the interior of Illinois; strong-framed, muscular, plethoric. Complained of a constant pain in the right half of the tongue. He consulted Dr. Fenger, fearing cancer, who, not finding any pathologic change in the tongue referred the patient to me. On examination, I found an extensive hypertrophy of the inferior turbinated body on the right side, causing complete obstruction and a marked degree of pressure in that region. Operation was performed by means of galvano-cautery. In three days the pain in the tongue had entirely disappeared, and has remained absent ever since—a year having elapsed since the operation was performed.

REPRODUCTION OF THE UPPER AIR-PASSAGES BY PLATING CASTS OBTAINED BY THE CORROSION METHOD.

Read in the Section on Laryngology and Otology, at the Forty-fourth Annual Meeting of the American Medical Association.

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While it is no new thing to obtain, in metal or other materials, casts of the cavities or structures of the body, and exquisite results have been long and by many workers obtained in this field, there yet remains much to be thus demonstrated to the scientific world at large, and far more in the way of local demonstration. It is with this latter object that I desire here to bring forward some of my results, believing that they will be new to some and interesting to others who work in the upper air tract. Made in fusible metal, which can be readily cast into the soft tissues of the recent cadaver, these metal casts have a delicacy and a durability far superior to anything which is possible with the more frequently used wax mass; and the secondary process which I have here employed has marked advantages and seems to constitute a new and important step in this matter.

All of these casts have the grave disadvantage, which grows with the increased complexity of the object, of being negatives only, and a comprehension of their real teaching can be gained only by a process of mentally turning them inside out, which many persons find very difficult and unprofitable. They are often needlessly costly, too, since one can lock up many pounds of expensive alloy in a single cast. But if the solid cast can be electroplated and its metal then fused out to leave the thin shell of deposit, we have a repetition of the negative almost as true and quite as instructive as before; while we have absolutely reproduced, in a permanent and convenient form, the hollows of the organs originally molded. Strong as is the fusible metal, it is yet so heavy that casts made of it are very apt to fracture if dropped, and my idea, as a teacher, is that preparations too delicate to take some chances of rudeness of handling are of little value except to the original student. They may be marvels of beauty and accuracy, full of new and instructive points, but all of this is lost to those who can not handle and closely study them. These electrotypes can be featherweight reproductions if desired—delicate as the empty shells of a collection of birds' eggs—yet safe for any reasonable handling or transportation. Carefully sectioned, before or after the removal of the fusible metal within, they can afford new possibilities of study and reveal much which might escape observation, even when both interior and exterior are thus accessible.

The first results which I have now in hand to bring forward are in many respects rude and unsatisfactory; yet are delicate enough to reveal all the shortcomings of the original casts. They illustrate that the primary casting in fusible metal should be done with all care and accuracy, and with due consideration of the aims, difficulties and possibilities of the method. The metal had best be fused in a water-jacketed funnel capable of containing several pounds, so that a superabundance may be present to secure full fluidity of the material and completeness at one casting without requiring any supplementary

pouring, even if a good deal should be lost through some unexpected leakage. This last mishap calls for the aid of some efficient assistant who shall stand ready to stem such flow, and do anything to aid in perfecting the result. Thus cast, with foresight in arranging for the escape of air from all the cavities and a normal disposition of the preparation so as to avoid distortion, exquisite results can be obtained from adequate material; the main difficulty in America, being to obtain such material in any quantity, and at times when the experimenter really has the leisure to utilize it. This has rarely been my good fortune, hence my preparations fall far short of what the method might afford.

As to the electroplating, the main point is that it should be slowly done, in order to obtain due evenness and smoothness. Any forcing of the process will give lumpy distortions which may greatly impair the accuracy and beauty of the operation.

BICHLORID OF MERCURY IN THE TREATMENT OF DIPHTHERIA.

Read in the Section on Laryngology and Otology, at the Forty-fourth Annual Meeting of the American Medical Association.

BY CHARLES F. McGAHAN, M.D.

AIKEN, S. C.

I wish to call attention to the treatment of diphtheria by the bichlorid of mercury, not that I regard it as a specific in the disease, for I am sure that all of us who have had much experience with this most treacherous malady will agree with me that there is no such thing as a specific for it. Various modes of treatment have been followed by me, and frequently with such success in different epidemics that I felt on several occasions I had found a cure, but each time my hopes were crushed by having the treatment fail entirely in the next series of cases which fell under my observation. I have made this statement so that all can see that I am not reviving this treatment, in the expectation of having it considered a "cure-all" for the disease, but simply because I believe that if the profession would use it more extensively, and in larger doses, that we should have better results.

In one of the latest works on general therapeutics we find, in laryngeal diphtheria, "one one-hundred and fiftieth to one one-hundredth of a grain of bichlorid may be given every hour, for not over four days, and it must be carefully watched." This dose is not large enough to be of any service, if we have a true case of diphtheria to deal with. In fact, we can diagnose a case of diphtheria by the way the patient bears the bichlorid of mercury. I will give the history of one case, so as to illustrate the manner of giving it:

On February 13 I was called to see a patient, a lady over sixty years of age, who was suffering from a sore throat. Upon examination, I found the fauces very red, and not then suspecting diphtheria I prescribed peroxid of hydrogen (Marchand's) one to four, to be sprayed four times a day, and an alterative. When calling on the 14th, I found both tonsils covered with membrane. The patient was immediately put upon one-fifteenth of a grain of bichlorid of mercury every hour and a half, and to be sprayed every hour, alternating with bichlorid of mercury one one-thousandth and peroxid of hydrogen one to two. The disease gained rapidly and by the next day the pharynx, larynx and nasal passages were covered with membrane. For the first four days the patient took one-fifteenth of a grain of bichlorid of mercury every hour and a half, and for the four following days she took one-fifteenth of a grain of bichlorid of mercury every two hours. Besides this, during the eight days her throat was sprayed every alternate hour with bichlorid of mercury one one-thousandth, and enough solution was atomized each time to vaporize one-tenth of a grain of bichlorid of mercury, making one and one-half grains of bichlorid of mercury sprayed on the throat every day, and some days it amounted to even more, for when the disease was at its worst I used the bichlorid of mercury every hour.

In spraying, the larynx, pharynx and nasal cavities were sprayed. During the eight days over eight grains of bichlorid of mercury were given by the mouth, and about twelve grains sprayed into the larynx, pharynx and nasal cavities.

The only bad effect I had from the bichlorid was great depression which was counteracted by giving whisky freely. The throat was so covered with the membrane that my patient could not swallow for thirty-six hours, and nourishment was given by the rectum, and bichlorid through a tube passed in through the nose. Her recovery was very slow, and she suffered with paralysis of the vocal cords for over two months, but it gradually yielded to treatment.

In conclusion, I wish to impress you with the importance of giving bichlorid of mercury in large doses, in diphtheria, and do not be afraid of it.

CLINICAL EXPERIENCE WITH SOLUTIONS OF PYROZONE.

Read in the Section on Laryngology at the Forty-fourth Annual Meeting of the American Medical Association.

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About thirty-five years age, Sir Benjamin Ward Richardson introduced into medical and surgical practice the use of solutions of hydrogen dioxid. For a quarter of a century or more, he was their only advocate. With considerable distinctness he pointed out their application to various clinical conditions. He carefully recognized their limitations and, while making for them broad claims, did not regard them as a panacea for all ills. During the past few years, he has had many imitators of his advocacy. They have gone far beyond him in their claims of therapeutic results. They have, unfortunately, fallen short of him in honest conservatism. They have forgotten the counsels of this therapeutic pioneer, have made wild and untrustworthy statements, and have thus tended to bring the remedy into disrepute. They have had as allies some of the manufacturing chemists, whose wily rhetoric has been far more specious than their appreciation of the problems of clinical medicine has been accurate.

Richardson strongly insisted that it was impossible to prepare more than a ten-volume stable solution in water; to exceed this limit required a degree of acidity so great that, on exposure to the air, the solution rapidly ran down in oxygen strength, the H_2O_2 becoming practically H_2O. A true and honest ten-volume solution has only a very slight degree of

acidity. Anhydrous hydrogen dioxid is described as a syrupy, colorless liquid, with a styptic taste and a caustic action. It has a specific gravity of 1.45. It is a very unstable compound and hence is used in commerce only in diluted strengths. Confusion seems to exist with regard to the meaning of the term "volumetric solution." A fifteen-volume solution, granting that such an one is a durable possibility, is to be defined as one which yields fifteen times its own volume of oxygen gas. Such a solution would, according to the calculations of Smith and Oertel, (*New York Medical Journal*, Aug. 6, 1892) contain, in 100 c.c. of fluid, 4.25 grams of the pure hydrogen dioxid. Out of fifty specimens of various brands, purchased by these observers in open market and analyzed by them, not a single one contained 4.25 grams. The highest approximation thereto was 2.50 grams. The average of the whole number was 1.78 grams. 2.50 grams correspond to an eight and eight-tenths-volume solution. Smith and Oertel found a great discrepancy between the different specimens from the same manufacturer. Eight per cent. of all the specimens contained no hydrogen dioxid whatever. Thirty-six per cent. were decidedly deficient in strength. Squibb (*New York Medical Journal*, ibid) from analysis of a large number of various specimens, found only one with more than a ten-volume strength.

Undoubtedly the weaker solutions keep better, especially in warm weather. Decomposition is detected by the sight of the bubbles of escaping gas. Fairly pure solutions may be so concentrated by evaporation as to approach a thirty- or forty-volume strength. These solutions are distinctly acid and fairly stable, especially when dissolved in ether.

Such solutions entirely without acid, with ether as the solvent, are now on the market under the trade name of "Pyrozone Solutions." I have used them to considerable extent during the past few months, and have formed some definite ideas (which are, I hope, logical) as to their therapeutic value.

Pyrozone, which is here used to indicate the character of the formula H_2O_2, is taken from the Greek word for fire, and the word ozone. Pyrozone, or H_2O_2, is supplied in three solutions viz: pyrozone 3 per cent. solution aqueous, referred to as medicinal; pyrozone 5 per cent. solution ethereal, referred to as antiseptic; pyrozone 25 per cent. solution ethereal, referred to as caustic. The figures in this connection refer to the parts by weight. We have, therefore, in this series of preparations the advantage of knowing precisely how much of the agent we are using. The pyrozone 3 per cent. solution corresponds to the so-called fifteen-volume solutions of peroxid of hydrogen. The average specimens of hydrogen dioxid on the market contain, as we have seen, only one and one-half per cent. The pyrozone 25 per cent. solution contains a very large amount of H_2O_2 approximating the pure product, as a result of its volatile vehicle.

It goes without saying that all containers must be of glass; metal should be avoided. Glass or hard rubber tubes will answer for the spray when pyrozone 3 per cent, solution is used, and cotton wrapped splinters or glass rods roughened at the end, so as to retain the cotton for local application of the pyrozone 25 per cent. solution. The pyrozone 5 per cent. solution does not seem to me to have a place in rhinology. It is too strong for some purposes, and too weak for others.

Regarding the mode of action of the remedy, it is generally admitted that purulent matter possesses the power of liberating the oxygen from the solution, as evidenced by the ebullition of bubbles of gas. Bacteria also, it is claimed, possesses this power. I have used the pyrozone 3 per cent. solution for cleansing the nose and naso-pharynx whenever there have been crusts or inspissated secretions. The full strength has been employed anteriorly by a small pyrozone atomizer, and posteriorly with the ordinary hard rubber syringe. It has not seemed necessary to dilute the solution. Care should be taken that it is slightly warm, as indeed should be all cleansing agents applied to these regions. On coming in contact with the tissues, it produces a momentary tingling which quickly subsides. In using this remedy, the impression has been forced upon me that we are not always as thorough in cleansing the nasal cavity as we suppose. Often I have used aqueous and oily sprays in the nostrils until they were apparently clean, but a succeeding syringe full of pyrozone 3 per cent. solution would start up little masses of white foam, showing that a little of the secretion was still hidden somewhere behind some projecting shelf in the nasal cavity. In regard to the smarting produced, we have to remember that in this strength we are employing an aqueous vehicle, and I have not found the solution any more irritating to the average patient, than is the Dobell Solution or the Seiler Tablet, the latter of which I prefer.

The pyrozone 25 per cent. solution should be handled with considerable care. A drop spilled on the hand causes some discomfort, but no deep action on the tissues. I have employed it to stimulate the healing of sluggish mucous patches on the tongue, cheeks and lips with much satisfaction. In one case of perforation of the palate, in a syphilitic girl of eleven years, it has proven more efficacious than nitrate of silver in stimulating the edges of the wound, and has led to a marked increase in the rapidity of closure. The patient is still under treatment with the iodid of potassium, and I hope for a complete recovery of this feature of the case. With reference to the destruction of hypertrophied turbinated tissue, I have not found it a substitute for either the cautery, the chromic or the trichloracetic acids. Its action in safe quantities seems to be entirely too superficial to effect the desired result. The surface has been first anesthetized with a 10 per cent. solution of cocain, and the pyrozone 25 per cent. solution applied on a bit of cotton wound around the end of the glass rod described, and held in contact with the tissue for, say, ten seconds. A false impression is produced as to the action at the time of use, as the re-agent produces a large white blotch, which is all the more prominent from its marked contrast to the red background of the tissue.

When all this clears away, however, it is seen that the penetration has been slight and only a very little tissue removed. If the pyrozone 25 per cent. solution is rubbed in, it does not seem to produce an action deep enough to "tack" or bind down the exuberant tissue. Hence several applications are necessary to effect what could be accomplished by one application of the cautery or other destructive agents. The after effects have seemed to be slight; there has

been very little inflammatory reaction, and the slough has come away by the third or fourth day at the longest. I have been in the habit of coating over the area acted upon, with officinal collodion.

On enlarged glands at the base of the tongue, if isolated, the pyrozone 25 per cent. solution has given considerable relief to the symptoms incident to that condition. If the adenoid masses have been large and aggregated so as to form physically a true lingual tonsil, the same objection has seemed to obtain as in the turbinated hypertrophies; but after all, we have to remember that it is on dead matter, rather than on living tissue that the remedy finds its own peculiar sphere of action.

118 West 69th Street, New York City.

A CONTRIBUTION TO THE TREATMENT OF WHITE SWELLING OF THE KNEE.

Read before the American Orthopedic Association, St. Louis, Mo., September, 1893.

BY A. B. JUDSON, M.D.

ORTHOPEDIC SURGEON TO THE OUT-PATIENT DEPARTMENT OF THE NEW YORK HOSPITAL.

White swelling of the knee belongs to a class of diseases which it is difficult to believe are not constitutional, and yet which are so modified in their progress and results by the influence of mechanical environment that, beyond the regulation of the diet, the administration of roborants and the observance of the laws of hygiene, the only treatment necessary is that which is carried on by mechanical appliances. Not that treatment of this kind can abruptly arrest the disease and remove the traces which it almost always leaves in the structures which have been affected. It will be a happy day when the advance of our science puts us in possession of the power to cut short this morbid action, and secure ultimate symmetry and normal ability.

Until that day we may well give our best attention to methods of placing the affected member and the system in the best position to promote and take advantage of the inevitable rally of the defensive and reconstructive sources of nature. For restoration to health and more or less complete function are certain to occur, except in most unfortunate exceptional circumstances.

Speaking of hip disease Brodie exclaimed: "Why should the disease be dangerous? The hip-joint is not a vital organ!"[1] And this is not the less true of white swelling of the knee. And in the case of children, among whom our patients are chiefly found, we have especial reason to expect, amid the countless transformations attending growth and development, an early occurrence of the favorable reaction in which the disintegrating process ceases and repair of the damaged structures, so far as may be looked for, sets in.

As in the treatment of articular osteitis elsewhere, we seek to arrest the functions of the joint, which, in the present instance are two-fold; motion and weight bearing. We are early taught that the function of a joint is to give motion to the otherwise rigid skeleton, but it is only later, when we are perplexed with the treatment of diseased joints in the lower extremities, that we are impressed by the observation that one of the important functions of the bones, which go to make up the joints of the lower extremity, is the duty of sustaining the weight of the body, or a large part of it, in standing, and of enduring the violent blows that are inflicted in rapid succession by the weight of the body in locomotion. Therefore, it follows that, as the function of the knees is two-fold, our efforts to arrest function must also be two-fold. We must 1, arrest motion, or fix the joint and we must, 2, relieve the joint of the duty of bearing weight. I prefer to do these two things, in the joint in question by two separate instruments, one of which, the fixative brace, is to be worn constantly, while the other, the protective splint, or ischiatic crutch, is used when the patient is up, and removed during the hours of sleep.

1. And first of fixation of the knee: it is one of the very simplest problems in mechanical surgery, made so by the presence in the limb of a bony lever above and below the joint (ginglymoid), which practically has no motion except in flexion and extension. How widely different from the problem of fixing the hip-joint which, a ball and socket, has flexion, extension, abduction, adduction and rotation, and practically no leverage at all above the joint. The fixative splint for the knee is simply a lever, making pressure from before backward at the place of motion, and counter-pressure from behind forwards at two points; one remote from the joint, at the upper part of the femur, and the other, also remote from the joint, at the lower part of the tibia. A bar of soft steel of suitable length is applied to the posterior surface of the limb. To it are attached four cross-pieces each cross-piece being riveted at the middle of its length, and curved so as to half encircle the limb. The upper and lower transverse pieces are applied to the limb with the intervention of pads, while the middle pieces do not necessarily touch the surface of the limb at all, but have at each end a buckle in which pieces of webbing are tightened over the limb in front; one piece of webbing crossing the lower part of the thigh and the other the upper part of the leg. If the apparatus is applied to a limb with the knee fully extended and the webbing straps tightly buckled, flexion of the knee is prevented and, as there is practically no lateral motion, this brace is an efficient means of fixing the knee, not immobilizing it, for immobilization, or the equivalent of bony ankylosis, is impossible by apparatus applied with the intervention of the vulnerable skin and the elastic and mobile subcutaneous tissues.

When the knee is fully extended, this fixative splint arrests motion, but when used in case of deformity it is a convenient and efficient means of bringing the flexed knee into extension. At the beginning the splint is to be applied with the upright bend to simulate the flexion of the knee, or to be a little straighter than the knee, and the straps are to be buckled more or less tightly, according to the tolerance of pressure, until after a few days of intermitting and gradually increasing pressure the flexion of the limb corresponds with the flexion of the splint. With care and judgment the upright of the splint is then to be still further straightened and the pressure re-applied by tightening the straps and buckles as before. In an ordinary case, coming under this treatment in the acute stage, this manner of correcting the deformity is easy, certain and painless, and we have the added satisfaction, while thus reducing the flexion, of arresting motion in the knee at the same time.

[1] Clinical Lectures on Surgery, 1846, pp. 279, 248.

It seems paradoxical to say that we, at one and the same time, prevent motion and effect a change from flexion to complete extension. This calls to mind the peculiar condition of an inflamed joint, a condition in which the muscles in reflex contraction hold the joint motionless, and yet not so rigidly motionless but that it may be moved by a force gentle, continuous, painless and harmless. In the hip joint advantage is taken of this peculiar kind of immobilization, which is better called fixation, to correct the bad position of the limb, without mechanical force, by inducing the patient to adopt habitual attitudes and motions, chiefly the habit of walking in natural rhythm, in which a normal position of the limb gives the patient more convenience in locomotion than a deformed position. With the mechanical advantages found in the knee, however, we can change the position of the joint, regardless of the patient's habits or convenience, by directly applying force through the leverage of the fixative splint.

In this affection, as in all others producing deformity and disability through osteitis, the best ultimate result is to be sought incidentally while our principal efforts are directed to the promotion of recovery by the arrest of function. Fortunately, in white swelling of the knee the means of arresting motion, or fixing the joint, are identical with those with which the final good position of the limb is secured.

2. In the second place, we must relieve the affected joint from bearing weight in standing and walking, a problem very easy of solution by the use of a pair of crutches and a high sole on the well foot. But axillary crutches, though sometimes necessary, may in almost all cases occurring in orthopedic practice, be laid aside in favor of the perineal or ischiatic crutch. This, in its simplest form, consists of a steel upright, ending below in a foot-piece, shod with leather, and above in a horizontal semi-circular pelvic band, covered with leather, or better with hard rubber, carrying a padded strap for the reception of the os innominatum. The same apparatus is used in the treatment of hip disease in certain stages, except that in white swelling of the knee the rigid knee-piece is discarded. It is useful in order to prevent motion at the knee, which is harmful in hip disease, because it is inevitably accompanied by motion at the hip. It is useless in the disease now under consideration because arrest of motion at the knee is secured by the fixative splint already described. The ischiatic crutch is provided with a shoulder strap by which the weight of the apparatus is transferred to the opposite shoulder in walking and with the ordinary knee strap of webbing and the leather ankle strap. The upright should be adjustable in length to accommodate the growth of the patient or, if there are many patients, uprights of different lengths may be kept in readiness. Like any other crutch it is laid aside at night.

A CASE OF ABSENCE OF UTERUS.

BY O. M. DOYLE, M.D.
SENECA, S. C.

In September last I was requested to examine a colored woman under a warrant for insanity. She had been married about ten years and had never been pregnant. On inquiry, it was learned that she had never menstruated. Examination revealed a hymen intact; very dense and tough. This condition seemed a probable explanation of all the symptoms present, and it was determined that an operation was indicated.

In presence of, and assisted by Drs. J. S. Stribling and H. R. Hines, I proceeded to operate for what I supposed an imperfect hymen only. After opening the tissues ordinarily making the structure, I failed to reach a cavity beyond; and by keeping one finger in the rectum as a guide, continued the dissection in the proper direction for the vagina, until at a depth of three or three and a half inches, a small opening or cul-de-sac was found; and, protruding into it from above was a body thought to be the uterus; but as the os could not be found by digital examination, the opening was sponged out and a Sim's speculum introduced, which enabled us to determine that the posterior portion of the bladder was the organ exposed by the operation—that portion depending below the fold of the peritoneum—just where the mouth of the womb would be in a normal case. To prove the correctness of the opinion as to the organ exposed, the bladder was catheterized which caused it to contract and pass out of sight.

Thorough exploration of the parts was made, with the conviction on the part of all present, that the woman had no womb. She was dressed antiseptically and put to bed; recovering from the operation in a few days.

SELECTIONS.

OPENING OF THE ARMY MEDICAL SCHOOL.

The Army Medical School was opened November 1 in the Library and Museum Building of the Surgeon General's Office, Washington, D. C. The Surgeon General, the members of the Faculty, the passed candidates and a number of medical men interested in the development of this new idea, gathered in the assembly room of the School at a little before 3 P.M. Colonel Alden, as President of the Faculty, opened the proceedings.

Surgeon General Sternberg's address occupied about half an hour. He expressed his gratification at meeting his audience under the particular conditions of the occasion, and congratulated the passed candidates on the facilities which the School would afford them of learning from the practical experience of others what would otherwise cost them years of apprenticeship with perhaps many a mistake which they would have wished rather to have avoided. He congratulated them on having for teachers men who had been schooled in the practical work of the Army Medical Department, during the progress of a great war, and who were able now to review their early experiences in the light of a fuller knowledge than they possessed at the time. He thanked these officers for the earnest and helpful support they had given to his efforts for the establishment of the School and for the time and labor they had expended, while heavily charged with other important duties, in perfecting the arrangements for the course which was now commenced. This course would be a valuable one to the Medical Department of the Army, as well as to the individual officers. Young officers who were fortunate enough to be able to take advantage of it would perhaps never realize its full value. Only those who had experienced the difficulties, annoyances and anxieties which it would be the object of this course to prevent, could fully appreciate its value.

Up to this time a young medical man on being commis

sioned in the Service found himself a military officer with no military knowledge or training, no knowledge of his rights, duties and responsibilities as a military officer. These would be taught to him at this School. By virtue of his commission he became a commanding officer and caretaker of men of the Hospital Corps, with no knowledge of military discipline, of drill regulations or of the methods of providing for the necessities or caring for the rights and privileges of the men under his command. These also would hereafter be taught to him. His responsibilities as a medical man were also infinitely greater than could be sustained by the knowledge which he had gained as a medical undergraduate during his collegiate course. He became a sanitary officer although he had no practical knowledge of sanitary methods. The duties required of him at a military post speedily showed him his deficiencies and he endeavored to remedy them, but had few facilities for accomplishing this. Oftentimes he had to depend on subordinates older in the Service than himself for his instruction; but instruction of this kind was liable to be tinctured with errors and misapprehensions. He gained his experience under difficulties. Hereafter, however, all this will be changed. The Army Medical School will enable passed candidates to fall in for service fully equipped and competent.

It is not the intention to make an expert bacteriologist of every officer, but each would be expected to gain a thorough knowledge of the methods of bacteriologic research and of the practical deductions from the most advanced knowledge of this subject as bearing on the prevention of disease among the troops under his care. Bacteriologic study in its application to medicine is in fact but another name for preventive medicine. Nor is it the intention to make each officer a trained chemist. The object of the laboratory teaching on this subject will be to give such a knowledge of chemic practice as will enable the officer to conduct his sanitary inquiries with intelligence and accuracy. There is no such thing as a medical chemistry or a sanitary chemistry independent of the principles of general chemistry. These must be learned, and in proportion to the fullness of his knowledge of them is the ability of an officer to apply them to special uses in medical and sanitary inquiries. The Surgeon General hoped and expected that there would be a long continued future of usefulness before the school which was now being opened.

Colonel Alden then began his course on the duties of medical officers. He spoke of military discipline as constituting one of the distinguishing characteristics of military life, common to all branches of the service. There is nothing mysterious about this term. It simply refers to the prompt and unquestioning obedience due from subordinates to those in command, and which is essential to the efficiency of a military body. It is by no means confined to the military service. Where bodies of men have to be controlled, or where large and important interests are at stake, there is the same necessity for discipline and obedience, although from the absence of military forms and parade it is not so apparent. The discipline and obedience among the employes of the more important railroads illustrate this. The same thing is to a certain extent to be seen in large manufacturing establishments, and, coming to our own profession, the discipline in a civil hospital has necessarily to be strict because life and death are frequently at stake. The necessity for discipline in the Army, which may seem a little rigid in time of peace, becomes at once apparent if we remember that war is the normal state of the military man and that peace is to him but a time for preparation for war. The commander in the field must be promptly obeyed, implicitly and without question, or the success of the Army may be defeated. Military discipline implies a prompt, loyal and unquestioning compliance with the orders of a superior. Whether that discipline is irksome or not, depends largely on the temper with which the subordinate receives his orders. If he recognizes discipline as an essential feature of military life, surrenders himself to it cheerfully and takes pride in the promptness and thoroughness with which he obeys orders there is no hardship in it. Obedience then becomes a mark, not of servitude but of loyal devotion to duty. The days of military despotism and tyranny have passed; the rights of the individual are so carefully guarded in this day and in our country that no one need fear that his liberty may be abridged or that unjust treatment will be sustained.

Colonel Alden then spoke of the importance of the sanitary side of the medical officers' duties, stating that it was chiefly to perfect this side of their education that the Medical School for young officers had been established. The position of the medical officer in the military body then occupied his attention; and Jonathan Letterman was cited: "A corps of medical officers was not established solely for the purpose of attending the wounded and sick; the proper treatment of these sufferers is certainly a matter of very great importance and an imperative duty; but the duties of medical officers cover a more extended field. The leading idea which should constantly be kept in view is to strengthen the hands of the commanding general by keeping his army in the most vigorous health, thus rendering it in the highest degree efficient for enduring fatigue and privation, and for fighting. In this view the duties of such a corps are of vital importance to the success of an army, and commanders seldom appreciate the full effect of their proper fulfillment. Medical officers should possess a thorough knowledge of the powers and capabilities of the human system; the effects of food, raiment and climate with all its multiplied vicissitudes; the influences for evil which surround an army and the means needful to combat them successfully. When medical officers consider this subject all their high, special and important duties will naturally occur to them."

In speaking of the position of the Medical Corps, Colonel Alden remarked that it was for no selfish purpose that its members cared for rank, rights or privileges. A better appreciation of the importance of the medical officer and the granting to him of larger powers for good would come with the increasing intelligence of the community, and would be hastened by the demonstration of the intelligence, scientific attainments and efficiency of the Corps. Rank fixed the pay and allowances of the medical officer and defined his precedence when serving in courts and boards, regulating also certain military courtesies due him. The military title was official and sanctioned by the usages of the War Department. Nevertheless, Colonel Alden seemed to consider it questionable whether medical officers had gained any in importance and consideration by assuming the military title of their rank, or whether they had not lost something. After these preliminary remarks on general points, he proceeded with an outline of his course on the duties of the military medical man, dividing them into three branches: 1, the duty of supervising recruiting to see that none but able-bodied and effective men entered the Service; 2, to prevent disease and preserve the efficiency of the troops, and lastly, to care individually for the sick and wounded of the Army.

Pathology of Influenza.—The author who is Prosector at the Marien Hospital at St. Petersburg, furnishes a detailed account of forty cases of grippe on which autopsies were performed. These cases were all of individuals who were otherwise healthy. On microscopical examination of the voluntary muscles, he occasionally found loss of the striæ, however only in isolated muscle bundles. In three cases he discovered evidence of hemorrhage in the muscular tissue, and the resulting hematomas were so large that entire bundles of muscle-fibers were involved.

A closer microscopical examination disclosed the fact that there had been a parenchymatous bleeding, and probably a bleeding by diapedesis. In the vessels were found numerous small microörganisms, and it may be inferred from this that there was nutritive disturbance of the vessels. As the hemorrhages were invariably unilateral, the author concludes that the lesion involves the sympathetic centers.

Pachymeningitis hemorrhagica interna he found only in one case, but in 50 per cent. of the cases there was a hyperemia of the pia, and in two cases even bloody infiltration. Suppurative cerebral meningitis was found in one case. In those cases with bloody infiltration of the pia, there was found besides, hemorrhage into the lateral ventricles.

As a general rule, Kusskow found the heart muscle soft, friable and anemic.

A microscopical examination showed a calcification of the muscle cells, loss of the striæ of the shorter muscular fibers, while the longer fibers were unusually prominent. Fatty degeneration was not found.

In a preparation stained with Müller's fluid, Kusskow found enlargement of the muscle cells, with changes similar to those found in typhoid lesions of the bowels. Hyperemia and infiltration of the pharynx and larynx, he found occurred quite frequently.

Careful examinations of the capillary vessels of the lungs and bronchi were made. The author calls special attention to the frequency of lobar inflammation. In eight cases he found purulent infiltration, and of these six resulted in gangrene.

The gangrene spots as well as the purulent ones, were wedge-shaped, with their bases towards the pleura. Capillary thrombosis, such as is described by Klebs he seldom found, but when so found it occurred in fibrinous plugs. Venous thrombosis was much oftener discovered, as was also arterial thrombosis, but the latter not so frequently as the former.

The spleen, in the majority of cases was contracted; only twelve were found to be enlarged. These were also microscopically examined. Changes in the intestinal canal were often found. Peritonitis was never discovered, but the kidneys were usually affected.

In conclusion, the author decides, on the strength of his numerous investigations, that influenza may be divided into two forms: 1, hemorrhagic; 2, pyemic or septico-pyemic form, with purulent and gangrenous inflammation of the lung tissue and frequent metastases in other organs.—*St. Petersburg Medicinische Wochenschrift.*

Urethritis in Abeyance during Acute Pneumonia.—Boydan has reported, in *Wiener Medicinische Presse*, No. 21, 1893, a case of a male of 18 years having profuse gonorrheal discharge, with marked pain on micturition, at the time of admission into hospital. Four days later, he came down with a sharp attack of croupous pneumonia of the left lung, and during the next day all the urethral symptoms subsided. On the tenth day, on the inception of convalescence from pneumonia, the former symptoms returned with all their original virulence. Barthélémy has seen two analogous cases where, during the acute stage of typhoid fever, a preëxisting urethritis was not observed. One of these cases had an epididymitis on the seventh day, going to show that the gonorrhea had not been cured, but had simply been in abeyance.

The Mississippi Valley Medical Association.—We extract the following from our esteemed contemporary, the *Indiana Medical Journal*. The truth is that the constitution referred to has not yet been printed and we have therefore no data at hand from which to verify the statement of our contemporary. From what we learned from Dr. Reynolds, however, we are of opinion that the statement in regard to geographical limits is too sweeping:

"The Mississippi Valley Medical Association is, by virtue of the amendment to the constitution carried through at the Cincinnati meeting in 1892, a national society. Practically it is nothing of the sort. There is one national, general medical organization, the AMERICAN MEDICAL ASSOCIATION; there is no need and no place for another. No one seems to know and no one seems to be able to find out just why this change was made. It appears to have been a case of "follow my lead," but, we think, in a wrong direction. This year, as heretofore, the effort to give the Association a national character, was a failure. It were hardly too much to say it has been a farce. Outside the section of country bounded by Pittsburg on the east, Kansas City on the west, Detroit and Chicago on the north, and Kentucky on the south, there were not, so far as we know, ten physicians present. The Association, originally the Tri-State Society, would, we can not but believe, better fulfill its mission by devoting itself to the cultivation of scientific medicine and friendly intercourse among the physicians of the great Central West. The attempt to do more looks like an unnatural inflation and has an unpleasant significance to many who believe that one general medical association, embracing the nation, is sufficient and should command united support. With the various district societies around us—the new Tri-State, the Southern Surgical and Gynecological, the Missouri Valley, and others, and the American Medical, embracing all, the Mississippi Valley Association finds its true place and its real opportunity in its old field. It is to be hoped that it is not too late to bring it back to its original and logical position."

The Discovery of Modern Surgical Anesthesia.—The *Virginia Medical Monthly* for October contained an article by the editor of this journal entitled, "A Contribution to the History of the Discovery of Modern Surgical Anesthesia." The object of the communication was to place before the profession some new data relative to the claim of the late Dr. Crawford W. Long of Athens, Ga., as the original discoverer of the anesthetic property of sulphuric ether. These data pertained mainly to the alleged relations existing at the time of the discovery (1841–42) between Dr. Long and a young man, P. A. Wilhite. This Wilhite afterwards became a practicing physician (at Anderson, S. C.), and it was through information received from him in 1876 that Dr. J. Marion-Sims presented the case of Dr. Long to the profession (*Virginia Medical Monthly*, May, 1877). The paper of Dr. Sims was very unsatisfactory to Dr. Long. It contained many errors, the principal one relating to Wilhite himself.

Sims' article makes it appear that Wilhite and three other young men were students in Dr. Long's office prior to the events of 1842; that Wilhite related to Dr. Long how he had playfully etherized a negro boy in 1839, and that Dr. Long was encouraged from this story to believe that ether might be used to prevent pain in surgical operations.

Our own paper was prepared from certificates, correspondence and other data which had been gathered by Dr. Long in support of his claim, and which were kindly placed in our hands by the Long family. Some of these papers are from Dr. Wilhite himself. One of them certifies that he entered the office of Dr. Long in October, 1844, and that he heard Dr. Long speak of having used ether to prevent pain in surgical operations, etc. As to the negro boy incident, Dr. Long appears to have known nothing about it until nearly forty years after it is said to have occurred, and then it was related to him for the first time by Dr. Wilhite.

From the evidence before us we were sure that Dr. Wilhite had achieved a prominence in connection with this matter which he did not deserve. His own letters to Dr. Long (which Dr. Sims never saw) relieve him from all possibility of credit in this connection. One of them (Jan. 16, 1877) urges Dr. Long to furnish Dr. Sims with certain information in order that he (Long) "might, and justly too, receive the credit of this great discovery." Wilhite told Sims in 1876 that "Long was the real and original discoverer of anesthesia, and believed he would be so acknowledged if all the facts in the case were fully set forth." So, from all the evidence, including Wilhite's own testimony, it becomes certain that he could not have furnished Dr. Long with any assistance or suggestions whatever.

Dr. Long himself stated that he received his first intimation of the anesthetic possibilities of ether from observing a number of young men inhaling it in sport. Several of them received small injuries, but felt no pain until the effect of the ether began to pass off. His first opportunity to test the ether in surgery came March 30, 1842, when he removed a small tumor from the neck of James Venable. Other operations followed somewhat slowly, and Dr. Long waited for a case of capital surgery before publishing his results already obtained. Then it was that his New England contemporaries were making their observations. Their first case was operated upon Oct. 16, 1846, and it took them

just eleven days to *patent* their ether, and then publish to the world their great "invention."

Thus it happened that the credit of this discovery, the "priceless gift of applied anesthesia," has been bestowed upon certain parties while belonging properly to another. But the profession has begun to recognize the merits of Dr. Long's case, and the time is almost at hand in our medical history when he will occupy the position which he eminently deserves, as the real and unassisted discoverer of anesthesia.—Editorial in *Atlanta Medical and Surgical Journal.*

Probable Cause of the Limp of the First and Second Stages of Hip-Joint Disease:[1]—By HARRY M. SHERMAN, A.M., M.D., San Francisco, Cal.—There has never been published a satisfactory explanation or even description of the limp of hip-joint disease. Gibney and Barlow speak more fully than the rest, but do not explain the cause and mechanism of it. The writer then gives his explanation. At first he shared the quite general belief that pain and limp are practically one and the same symptom, the limp being due either to the pain directly, or to the effort to avoid pain. But lately he has seen so many cases of limp without pain that he differentiates the two symptoms, and regards them as independent of each other. The author has found that in the vast majority of his cases the initial lesion lies in either the head or the neck of the femur. The region attacked by the disease becomes a mass of infected granulation-tissue. The bone-trabeculae are wasted; that is, there is destruction of functionating tissue, and hence the function of the bone is impaired proportionate to that destruction. This structural weakness is not necessarily a late process, but is contemporaneous with the initial lesion.

As the head of the femur is at a distance from the center of gravity, the weight of the body throws a considerable strain upon the neck of the femur. The nearer under the center of gravity the femur is placed, the less is that strain. Under normal conditions there is with each step a tendency to assume such a position, namely the swaying from side to side. In the first stage of hip disease the limp is at first only a slight increase of this sway, and can be seen only when looked for, and when the gait is not faster than a walk. "During this first stage, while joint motion is checked at the extremes, it is still ample for the purposes of locomotion, and none of the stiffness which is so marked later in the disease is apparent." In the second stage, the area of infected bone increases and muscular rigidity lessens the joint motions. Consequently the lateral sway increases, and progression on the affected limb is shortened. The lateral sway soon reaches a maximum and is constant there, but is combined with other unusual movements, resulting from the crippled condition of the joint. Crippling of extension causes the "element of stiffness," but is in part compensated for by the slight extension between the lumbar vertebræ. Later, flexion is curtailed and proper advance of the foot is impossible; and whatever is accomplished is assisted by the swinging forward of the body by a rotation at the opposite hip. Still later, rigid flexion permits too little extension to let the heel touch the floor, and the patient walks on the toes with an up and down motion, and with great lordosis of the spine.

All of these motions are caused by two elements: 1, the lateral sway; and 2, the lessened joint motion. The lateral sway begins as an increase of the normal movement, grows into the swing which brings the body weight exactly over the head of the femur; and is an act instinctively taken to lessen the strain upon the structurally weak portion. It is neither a limitation of a normal movement nor an increased compensatory motion in other articulations; but is an independent motion, and "has all the semblance of a means adapted to an end."

The explanation offered suggests the presence of a "bone-sense," by which the appreciation of the work done is transmitted to the central nervous system. If there is a muscle-sense why not a bone-sense? The bones are supplied with the grosser sets of nerves as well as the other living tissues of the body. In some tabetic cases the bone-sense, as well as the muscle-sense, is apparently lost; as in one of the writer's cases in which the patient walked upon a disorganized great-toe joint "with neither limp nor pain; that is, he put upon the diseased and weakened bones the same strain that he did upon the sound ones," which is ordinarily not the case even when there is no pain.

Osteo-sarcoma of the femoral neck causes the same structural weakness of it that hip-joint disease does, and therefore a perfect imitation of the hip-limp.

[1] Abstract of paper read at the Pan-American Medical Congress.

A Contribution to the Study of Club-Hand.—By REGINALD H. SAYRE, M.D., Orthopedic Surgeon to Bellevue Hospital Outdoor Department.[1]—Congenital club-hand is a rare deformity. Club-hand resulting from an injury to the central nervous system, or to an unsuspected fracture of the bones at the time of birth, is not strictly speaking a congenital affection. In congenital cases there are three varieties: 1, the skeleton is complete and well-formed; 2, the skeleton is complete, but ill-formed; 3, the skeleton is incomplete and distorted.

The general belief is that most of the cases belong to the third variety. The writer has seen in all five cases, only two of which belonged to this division. In four of the five cases club-foot in one form or another was also present.

In milder cases, manipulation and retention in the improved position with plaster-of-paris is of great benefit. In severer cases, section of tendons, ligaments and fascia may be necessary. Open section is often preferable, and when the flexors are involved it is better to operate in the arm, cutting the tendons diagonally, slipping the ends by each other until the required length is gained and then suturing. Two of the author's cases were due to great contraction of the flexors of the fingers, but neither of them came to operation. In a double case, which is still under treatment, manipulation and plaster-of-paris is doing good work. In another case, also under treatment, the child has right club-hand, right club-foot and left lateral curvature. The whole right side of the body is less developed than the left, possibly due to disuse, the right hand and foot being so deformed as to prevent even moderate use. The club-foot was recently cured by an operation. In the club-hand, the radius and thumb are absent, together with the first metacarpal bone and several of the carpal bones, exactly which ones it is difficult to make out. The hand was perpendicular to the arm on the radial and flexor side, the ulnar being curved 30 degrees to the radial side. The carpus did not articulate with the ulnar, but was drawn up above its distal end, and was attached to it by means of firm ligamentous bands.

The writer first performed an osteotomy of the ulnar and corrected the curve. After an ineffectual attempt, by several weeks of traction, to lengthen out the ligaments so that the carpus could be brought down to the end of the ulnar, he cut down upon the ulnar and separated all the ligamentous attachments from it, but even then could not draw down the carpus sufficiently, and he therefore removed two carpal bones which he thought were the os magnum and the unciform. The tip of the styloid process was then cut off, and the end of the ulnar was inserted into the gap left by the removal of the carpal bones. The hand was dressed in the straight position, and after three weeks, passive movements of the wrist were begun with the object of creating a serviceable joint if possible. The operation benefited both the position and the usefulness of the hand, although an apparatus is still worn to give strength to the wrist and to preserve a better position of the ulnar, which tends to slip a little from its position unless thus supported.

The treatment of club-hand must depend upon the conditions existing in each individual case. The writer's operation is the first one of the sort reported, so far as he is able to learn.

Blank Applications for membership in the ASSOCIATION at the JOURNAL office.

[1] Abstract of paper read at the Pan-American Medical Congress.

THE
Journal of the American Medical Association
PUBLISHED WEEKLY.

SUBSCRIPTION PRICE, INCLUDING POSTAGE:
PER ANNUM, IN ADVANCE $5.00
SINGLE COPIES . . . . . 10 CENTS.

Subscriptions may begin at any time and be sent to
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
No. 68 WABASH AVE., CHICAGO, ILLINOIS.
F. J. REBMAN, LONDON AGENT, 11 Adam Street, STRAND, LONDON.

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All members of the Association should send their Annual Dues to the Treasurer, RICHARD J. DUNGLISON, M.D., Lock Box 1274, Philadelphia, Pa.

SATURDAY, NOVEMBER 18, 1893.

MEDICAL STUDY OF CRIME.

Within the past few years a new field of medical study has been opened which promises a great revolution in both the theories and practice of science. The prison physician who makes one or two visits a week and gives salts and quinin, or who makes cursory examinations to detect feigned diseases, is suddenly confronted with a new realm of science. The coarse abnormal features, the cringing manners, and strange histories of criminals, tell the story of disease and degeneration never dreamed of before. These poor victims are found to be types of a distinct class that spring from certain distinct causes and conditions, and follow a uniform line of degeneration in obedience to a law that can be traced in part. The study of the criminal by the Italian physicians has opened up this new realm, and pointed out the physical signs and symptoms of disease. From this point of view, crime is a symptom of brain degeneration, and is controlled by laws and conditions that are not influenced by the present methods of treatment. In England, for a period of over twenty years, the prison population has been noticed to follow a regular ebb and flow yearly. The number of inmates would steadily increase up to July, when it reached its highest yearly level; then receded to the month of February when the lowest point would be reached. This has been unvarying—year after year. Why the smallest number of prisoners should be noted in February, and the largest number appear in July, is unexplained. Why crime is more prominent in warm weather, and why prisoners confined in prisons are more difficult to manage in the summer are some of the many problems.

The presence of a criminal class who are indigenous to the country, is very possible in the old monarchies of Europe, but whether they exist in this country or are likely to spring up from certain germ causes is not clear. Crime and criminals of large cities seem to indicate that a new class of offenders are coming into prominence. The question for the prison physicians to determine, is the heredity of criminals, the influence of seasons, climate, social status, occupation, education, poverty, and other factors which enter into the history of each one. The records of crime are the only general facts now made, with some facts concerning the associate diseases common to prison populations.

Are criminals a distinct class in this country, whose crime is always the same, and whose physical appearance indicate these abnormalities of conduct? Are such persons defective physically and mentally? Are they growths of degenerative inheritance from a past generation? or are they the products or growths of environment? Is the present method of treating crime curative or preventive? or does it increase crime and make the criminal more incurable? Are there physical conditions beginning in childhood that develop into criminality? Are there any mental defects or diseases, injuries or brain states, that naturally predispose to crime? Are criminals who commit crime against persons different from those who commit crime against property? These are the questions that have come into prominence by the works of LOMBROSA and others of this new school. Already some of these questions have been answered, and the facts and statistics on which they are based indicate a very suggestive and startling field of inquiry. While this is comparatively a new topic, already the list of papers and works published in Europe and this country amount to over a thousand in number. Over a hundred papers and monographs mostly in German, French and Italian, are devoted to a study of the physical symptoms of criminals. A late volume "On Abnormal Man," published by the Bureau of Education at Washington, D. C., 1893, gives a very extensive bibliography of the literature of this subject.

The prison population in this country is very large, and is no doubt as carefully housed and treated medically as in any part of the world. Yet, strange to say, very few medical men connected with prisons have made any contributions to these topics. A few clergymen and others have appeared in papers that were largely repetitions of the ideas of some foreign authors, and beyond this little or nothing has been done. The work of DR. WEY at Elmira, New York, is a cheering exception, and shows what a great field of medical study is all unoccupied in this country.

Already the work of the medical man in a prison is found to be something more than dealing out pills and powders. Crime and criminals are not to be prevented and cured by walls and locked cells. The physician must help to solve this problem with his

studies of symptoms and cases, and conditions that make up the criminal. As an index of the profound ignorance of these new questions, and the value of medical care and knowledge a prominent Eastern prison is an example. The physician, a recent graduate, receives $100 as a yearly salary, and makes one or two visits a week to a population of 500. The chaplain receives $800 a year, for a single service on Sunday.

It is pleasant to realize the fact accorded by foreign authorities, that American physicians are pronounced leaders in many departments of medical science to-day. But it is a source of extreme regret that American prison physicians should be practically unknown in this new field of medical study.

BACTERIOLOGIC EXAMINATIONS REGARDING MEMBRANOUS CROUP, BY THE NEW YORK CITY BOARD OF HEALTH.

DR. HERMAN M. BIGGS, chief inspector of contagious diseases, under the New York City Department of Health, has made a provisional report concerning his bacteriologic work for four months. During that time, DR. BIGGS has had occasion to examine thirty-six reported cases of membranous croup. In all these cases, the membrane was limited to the larynx, or only slightly extended into the pharynx. There was found, in thirty of these cases, the diphtheritic bacillus of LOEFFLER, often quite abundantly. These cases were, therefore, really cases of laryngeal diphtheria. In the remaining six cases the LOEFFLER bacillus was not found. These were, therefore, cases of catarrhal pseudo-membranous inflammation of the larynx, and are analogues of the non-diphtheritic cases of pharyngitis marked by a similar pseudo-membranous exudation. In none of these six cases of croup, was the laryngeal disease preceded or followed by pharyngeal inflammation having the LOEFFLER bacillus in the exudate. In five of the cases of laryngeal croup, having the bacillus in the membrane, there was a pharyngeal diphtheria both before and after the laryngeal trouble. In fifteen of these cases pharyngeal diphtheria neither preceded nor followed the attack. Three of the cases were preceded by pharyngeal diphtheria, while seven were followed by that complication. So that during the last four months nearly 84 per cent. of the cases of reported croup, referred to the Department for examination, proved to be genuine diphtheria. Acting upon this report, the Department will probably adopt a rule calling upon physicians to report all cases of laryngeal croup, and to isolate the sick from the well.

THE ADVERTISER AND THE MEDICAL JOURNAL.

We notice that some of our contemporaries are very much exercised in mind on account of the fact that THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION receives its share of advertising patronage, and they take occasion to read a lecture to the Trustees of this JOURNAL for publishing some advertisements. None of them have dared to specify what particular advertisement they would have omitted. One of our critical contemporaries stole the lecture from an Eastern publication, without an iota of credit! This is a charming illustration of the high grade of morality practiced by some of the lecturers in question. It might not be altogether out of place if we mention, quietly and with bated breath, that the very advertisements which the respected editors cavil about, appear in full display in their own advertising columns. Nay, more; in the medical publication which originated the most recent lecture, there appear two advertisements which were declined by the advertising department of this JOURNAL. The moral of this interesting story is plain. That is, that an advertisement may be printed by a publisher's medical journal without question. But when a journal managed solely in the professional interest publishes the identical advertisement, the latter journal's course "brings a blush of shame to the cheek," et cetera, et cetera. We venture to suggest to our dear brethren that an occasional leader on sincerity, based on practice, might be of great service to them. The novelty of such writing would also give the writers a new sensation.

A LIBRARY FOUNDED BY DR. ROBERT BATTEY.

As announced by the daily press, and published in this JOURNAL last week, this well-known surgeon of Rome, Ga., has expressed his intention of giving one thousand volumes of his most valuable books to the State Library of his State. He asks that these volumes be made the nucleus of a medical reference library to which other physicians will freely contribute in the future, if his suggestion is suitably met by the officials at the State capital. The need of the profession for such a reference library is one which has been often realized by him during his long and useful career. It is his chief anxiety that his gift shall be suitably housed and made practically serviceable.

LAY EVIDENCE OF INSANITY.

A general rule of law forbids witnesses, not experts, testifying as to a mere opinion. In some courts the line is drawn so closely that non-expert witnesses are not allowed to testify at all, touching sanity or insanity as a physical fact. By the great majority of courts, however, such evidence is regarded as no violation of the general rule, and is admitted, says the Supreme Court of Nebraska, in the case of Shults v. State, decided June 30, 1893, and just reported in 55 N. W. Rep. 1080. Still this view of

it does not permit non-expert witnesses giving what without doubt is a mere opinion, as for example, upon so vital a question as the legal accountability of a person for a homicide admittedly committed by him, or as that, at a certain date, such party knew the difference between the right and wrong of an act at that time committed by him. The evidence of such witnesses as to the sane or insane condition of a prisoner is tolerable only as they testify to the existence of sanity or insanity as a fact. What deduction is to be drawn from that fact is solely a question for the consideration of, and determination by, the jury. For these reasons the evidence should, to qualify a non-expert witness to testify as to a condition of sanity or insanity, show an acquaintance with that condition. Only such intimate acquaintances of a person accused of crime as have seen him almost daily for several months preceding the date upon which the alleged crime occurred are competent, as non-expert witnesses, to testify as to his sanity or insanity. Besides such testimony, being strictly limited to such sanity or insanity, it must also be confined to those occasions upon which the witnesses testify to having observed the conduct and appearance of the individual whose sanity is the subject of inquiry. An inference by witnesses deduced from the presumed continuance of the condition which they previously observed, is not within the rule or the reason of the rule, which permits the use of this class of evidence.

AMERICAN PUBLIC HEALTH ASSOCIATION—A CORRECTION.

Our attention has been called by a valued correspondent to an error in our report of the annual meeting of the American Public Health Association.

The paper said to have been presented by MEDICAL DIRECTOR GIHON to the "Congress of Public Health," was a report made to the American Public Health Association, by himself as Chairman of a committee appointed at a previous meeting to report on the "Sanitary and Medical Service on Board Emigrant Ships." The same correction is also applicable to the report of DR. J. N. MCCORMACK which was also made to the Association and not to the Congress.

We hope to publish these reports in full at an early day.

PUBLIC HEALTH.

PREVENTION OF INTRODUCTION AND SPREAD OF DANGEROUS DISEASES.

Special Meeting of the Michigan State Board of Health.

[Reported for THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION by Henry B. Baker, M.D.]

A special meeting of the State Board of Health was held at Lansing, Mich., Oct. 27 and 28, 1893. The members present were Hon. Frank Wells, President; Prof. V. C. Vaughan, M.D., Prof. Delos Fall, M. S., Samuel G. Milner, M.D., and Henry B. Baker, Secretary. The object of the meeting was for the purpose of conference relative to the subject of immigrant inspection and disinfection of baggage. The execution of the law on this subject so as to protect the health interests of the people from the importation of diseases, without undue interference with transportation companies, is attended with many difficulties. Inasmuch as under this law the rules framed by the State Board of Health have the force of law and must not only be sufficient to keep out disease but, under present circumstances, probably must also withstand attack in every court in Michigan, and perhaps in the United States Courts; there is need for calm deliberation and earnest discussion of every point involved, in order that the rules may prove useful and legal.

In the maintenance of the system of inspection and in the measures taken under the law in case the execution of the law is opposed by railroad companies, as has been the case at Sault Ste. Marie, there are many questions constantly arising on which it seems desirable that the Committee authorized to execute the system shall have the aid of the intelligent advice of all the members of the Board, after a a full explanation and calm discussion of the details of the work.

There is also need for such preparation, discussion and formulation by the full Board, of the evidence of the necessity for each rule, that it shall be made to appear not only to the State Board of Health, but to a court or jury that each is a reasonable rule.

The foregoing are the apparent reasons for a special meeting confined to the prevention of the introduction of diseases—a subject which, though of very much less consequence than the ordinary work of the Board for the restriction and prevention of diseases which have actually broken out in many places within the State, yet which seems sufficiently important to warrant the expense of an extra meeting, especially when we consider that through past action such dangerous communicable diseases are much less prevalent in Michigan than in any foreign country, and especially less than among those classes who come here as immigrants, and through such work at the border the ordinary work of the Board within the State will be made much more effective.

One of the first questions put before the meeting by the President, was whether or not the inspection and disinfection at the Michigan border should be continued. Bearing upon this question, it was mentioned by the Secretary that although the immigration is now comparatively little and the winter season is approaching, cholera is still present in most European countries, and the diseases which cause most deaths in Michigan and which are most liable to be brought in by immigrants spread most in, or following, cold weather. These diseases are consumption, pneumonia, diphtheria, influenza and scarlet fever. The Board voted that the inspection and disinfection shall be continued, and that the officers of the Board take measures to enforce the rules of this Board by action in the proper courts.

Another question, by the President, was whether or not certificates of disinfection issued by the Canadian officers shall be accepted in lieu of disinfection at the Michigan border, when relating to baggage destined to settle in Michigan. On this subject, the following resolutions, offered by Prof. Vaughn, were adopted:

Resolved, That we instruct our inspectors at the Michigan border to accept and allow to pass all baggage bearing evidence from a properly authorized Dominion or Provincial officer that it has been disinfected in accordance with the rules of this Board, unless there is reason to believe that such baggage has been infected since leaving the Canadian point of disinfection;

Resolved, That the above resolution be inserted in the Michigan rules under the head of "Exception 4."

The greatest danger of the introduction of disease into Michigan, at least so far as it is practicable to guard against it, is in the baggage of immigrants; for the reason that the quarantine and immigration inspections at our Eastern seaboard are likely to stop any person actually sick with a dangerous communicable disease. This is particularly true relative to cholera. And in the case of cholera, the germ of the disease is so easily destroyed that there is reason to suppose that a method of disinfection which is not sufficient for some diseases might be sufficient protection against cholera. As a rule, baggage of immigrants coming through the port of New York is not disinfected; no attempt is made at disinfection. For several months past, that coming through the Dominion of Canada has been subjected to such disinfection as was considered by the Dominion quarantine officer to be sufficient to destroy the infection of cholera.

If the methods and practice of disinfection of the baggage and luggage of all immigrants at our Eastern seaboard were such as to inspire confidence as to sufficient protection against all dangerous diseases, Michigan, notwithstanding its position on the frontier and in the track of travel of most immigrants to this country, might rest content without maintaining a quarantine.

The hope has been that, seeing the demand of Michigan for better protection from those other diseases which experience has proved are in Michigan of more consequence than cholera, the quarantine officers on our Eastern seaboard, or the United States officers, would take measures to so disinfect the baggage of all immigrants as to make it unnecessary to detain baggage for disinfection at the Michigan border. The United States Government gave to its Marine Hospital Service an immense appropriation; therefore it was hoped that it would establish a system of disinfection of all baggage of all immigrants, as was voted to be desirable at the meeting last spring of delegates from the State and Provincial Boards of Health. The Dominion of Canada adopted the recommendation of the State and Provincial Boards, so far as to provide steam disinfection of all baggage not injured by steam. This, with another provision which the Dominion officers thought sufficient to protect against cholera, has been in force at Quebec. Although the Michigan State Board of Health has endeavored to guard against the introduction of other diseases than cholera, and accordingly its rules have required and still require more than is done by the Dominion of Canada, yet, at this meeting of the Board the following resolution was presented by Prof. Fall:

Resolved, That the action of the Dominion of Canada in disinfecting the baggage of all immigrants from Europe coming into its territory and the establishment of its admirable appliances for this purpose as decribed by Dr. Montizambert, at the recent meeting of the American Public Health Association at Chicago, meets our most hearty approval. We commend earnestly this action of Canada to the United States Government and hope that similar disinfecting plants be established by it at United States Atlantic ports and that the baggage of all immigrants to this country be disinfected. We ask that this be done, not alone that we may be saved from threatened invasions of smallpox and cholera, but also that a vastly greater saving of lives may be effected from measles, diphtheria, scarlet fever, pneumonia, consumption and other diseases which are of much more serious concern to the people of this country than cholera or smallpox."

This meeting having been called especially to consider the prevention of the introduction and spread of dangerous diseases in Michigan, and a full year's work having just been completed (the first quarantine rules in the present threatened epidemic, having been issued Sept. 6, 1892) Dr. Baker suggested a review of the principal lines of effort which have been put forth by this State Board of Health, and a proper recognition of the efforts which have been so remarkably effective in the preservation of the public health in Michigan. The first recommendation which issued from the office of the Secretary of the Board a little more than one year ago was a plea for such a thorough cleaning up throughout the State, with especial reference to water supply and the disposal of excreta that if cholera gained an entrance it should not find the conditions favorable to its spread. An important method, many times recommended by this State Board, was the house-to-house inspection followed by the abatement of all nuisances found. Another line of work, in which the local Health Officers coöperate with the State Board, is the surveillance of immigrants in order to be prepared for any dangerous disease which might be brought by them or by their baggage. This has been possible through the notices supplied to the State Board by United States immigration officers and by inspectors at the Michigan border; and although it has cost the office of the State Board much labor it is believed that it has been worth what it has cost.

The effect of the extra sanitary work in Michigan was at first very marked and on the whole has been worthy of note. During the first quarter in which the extra work was unusual —being the last quarter of 1892—the sickness statistics showed a remarkable lessening throughout the entire list of diseases. This was mentioned in the published proceedings of this Board Jan. 13, 1893. During the first quarter of 1893, the sickness statistics show that smallpox, cholera morbus and scarlet fever were more than usually prevalent, but that many diseases including consumption which is the most dangerous disease of all were less than usually prevalent. During the second quarter of 1893, the statistics show that scarlet fever and diphtheria were more than usually prevalent and a few diseases were less than usually prevalent. During the third quarter of 1893, the statistics show that a few diseases including consumption, were less than usually prevalent in Michigan, and that "no disease was more than usually prevalent." Thus, on the whole, notwithstanding the great immigration and the threatening of cholera and other diseases from abroad, there has been less sickness than usual, entire freedom from cholera, and nearly complete freedom from smallpox.

Dr. Baker offered as a substitute for the resolution offered by Prof. Fall, preambles and resolutions as follows:

WHEREAS, Michigan has been remarkably favored by comparative immunity from dangerous diseases during the past year, while cholera has been and still is prevalent in most European countries, and smallpox and other dangerous diseases also have been, and smallpox still is, prevalent in some parts of the United States, and

WHEREAS, It is believed that this comparative immunity from disease in Michican has been largely due to enlightened efforts by sanitary officers, governments, corporations and individuals, not only in Michigan, but in our neighboring Dominion of Canada, in the States eastward of Michigan, in the United States Government, and in foreign countries, and

WHEREAS, This Board deems it wise to recognize these facts, to govern our future action accordingly, and to commend these agencies which tend toward the welfare of our own people, therefore

Resolved, That the Michigan State Board of Health commends the action of all those individuals, corporations, communities, and sanitary officers in Michigan, who have wisely done what was practicable to be done toward the prevention of the introduction or spread of disease in our midst, whether such action was sanitary surveillance of immigrants, sanitary inspections of premises, abatement of nuisances, or the prompt restriction of a dangerous disease.

Resolved, That the action of the Government of the Dominion of Canada, in providing for the disinfection of the baggage of all immigrants, is worthy of mention and commendation; that the action of the Grand Trunk Railroad of Canada in disinfecting all immigrants' baggage, carried by that railroad, destined to settle in Michigan, in accordance with the rules of this Board, is especially worthy of mention

and of hearty commendation; that the action of the Canadian Pacific Railway in disinfecting at Detroit, and also for a time at Sault Ste. Marie all such baggage destined to settle in Michigan, is also to be warmly commended, and it is regretted that such commendation can not properly be extended to its branches in the Upper Peninsula of Michigan.

Resolved, That the quarantine officers on our Eastern seaboard are to be commended for their apparent success in keeping out persons sick with cholera, and that the United States authorities are to be commended for the inauguration of systems of disinfection of immigrants' baggage at the foreign ports of departure.

Resolved, That this Board warmly indorses, as it has heretofore earnestly advocated, the plan for the disinfection of all baggage of all immigrants at all times, and for other diseases than cholera, as it was recently unanimously voted by the Sanitary Section of the Pan-American Medical Congress at Washington.

Resolved, That although sanitary measures have been and are increasing in efficiency, and the winter season is now approaching, yet cholera infection centers are scattered throughout Europe, and there is still danger of that disease reaching this country, and many of the communicable diseases most dangerous in Michigan are constantly liable to be brought in by immigrants, therefore this Board expresses the hope that all will continue to act for the exclusion of disease, and for the restriction of any dangerous disease within our borders, several of these diseases being of vastly more consequence than cholera.

The resolutions offered by Dr. Baker were not supported, The resolution offered by Prof. Fall was adopted.

At this meeting the Secretary read a paper on defects in the present quarantine law, considered from a social science standpoint. He thought it none too early, while the work under the law was fresh in mind to study the facts and reasons why some of the plans of the present law were defective, with the view of formulating amendments in time to have them well considered, discussed and perfected before the hurry incident to a meeting of the Legislature shall make such work impossible. As a starting point he read a proposed new section of law. One point in his paper was agreed to by the President, but no formal action was taken on the subject at this meeting. The next regular meeting of the Board is the second Friday in January, 1894.

The State Board of Health of Pennsylvania.—The State Board of Health, in a proclamation dated November 1, declares smallpox to be epidemic in Reading, and has issued orders and regulations looking to the prevention of the spread of the disease.

The Board calls attention to the fact that as the weather becomes colder the ventilation of houses and public conveyances will be diminished, and the tendency of the contagion to spread greatly increased, and that the germs of the disease can be transported the entire length of the State in twenty-four hours.

The Board orders that all borough councils which have not established Boards of Health, as required by law, do so without further delay. All Boards of Health are requested to report immediately to Dr. Benjamin Lee, Secretary of the State Board, the existence of the first case of the disease within their jurisdiction, and to make weekly reports thereafter of additional cases, deaths, treatment, vaccinations and precautionary measures, and also to publish a copy of the report in the local newspaper. It is also ordered that all Boards of Health determine on a location for an emergency hospital for use if necessary, and make provision for free vaccination of those unable to pay for the service of a physician.

County commissioners and poor directors are enjoined to be in readiness to provide emergency hospitals, nursing, medical attendance and food for persons stricken with the disease, not residing in incorporated municipalities and who are unable by reason of poverty to provide themselves with these necessaries.

All city or borough councils or Boards of Health not having in force efficient regulations for the prevention or suppression of smallpox are enjoined to adopt a set of regulations promulgated by the State Board of Health, which are declared in force in all places having no local Board of Health.

The regulations provide for the vaccination of adults and children who have not been vaccinated, and rule that no pupil shall be allowed to attend school who has not been vaccinated within seven years. School officers and teachers must immediately report the discovery of a case of this disease among the scholars, and any householder shall immediately report a case in his family. Physicians must also report cases that come to their knowledge. Every infected house should be marked with a placard or flag.

There are further regulations regarding the burial of persons dying from smallpox, the visits to public places of people from an infected house, the riding in public conveyances of the same, and disinfection.

For the purpose of the proclamation all cases of varioloid shall be considered as smallpox. Failure to obey or violation of the regulations is punishable by a fine of $100.

To Hold Sanitary Conventions.—The State Board of Health of Iowa has decided to hold a series of sanitary conventions during the coming year.

Yellow Fever.—One new case of yellow fever was reported at Brunswick, Ga., November 6. Surgeon H. R. Carter of the Marine Hospital Service, is also reported as seriously ill in the camp near that place.

BOOK NOTICES.

The Cholera Epidemic of 1892 in the Russian Empire; With Notes upon Treatment and Methods of Disinfection in Cholera, and a Short Account of the Conference on Cholera held in St. Petersburg in December, 1892. By FRANK CLEMOW, M.D., St. Petersburg. London and New York: Longmans, Green & Co. Chicago: The W. T. Keener Company. Price, $3.00. 1893.

This book contains an account of the epidemic in Central Asia and Siberia, the epidemic in the Caucasus and European Russia, its distribution, method of spread, influences which determined the intensity of the epidemic, the famine and the cholera epidemic, the measures of the Russian Government (which includes an outline of the scheme of defense), measures on the Persian frontier, in Trans-Caspia on the Caspian Sea, and in the Caucasus, railways and water ways (particularly the Volga), the various notification forms and orders relating to disinfection, notes on the treatment of cholera in St. Petersburg and the prophylaxis there. The last chapter is given to the Russian Conference on cholera which was held in St. Petersburg, December, 1892. The governor of each province, or government throughout the country, was requested to select one or two physicians who had had personal experience of the epidemic in the previous summer. The total number of members thus summoned was 312. They met on December 13, O. S. (December 25 of our notification), and on all the seven succeeding days meetings were held daily in Michael Palace, and the sub-committees met in the medical department of the Ministry of the Interior. The transactions of this Conference fill a large volume and, says the author: "The experiences of the members, who it must be remembered came from North and South, East and West, from the snows of Siberia to the tropical heats of Central Asia, from the mountains of the Caucasus to the plains of the Volga, all fresh from a life and death struggle with the ravages of cholera, afford material of no little interest to any one who is able to read them in the language in which they were communicated."

It seems we, in this country, have had little knowledge of the disastrous ravages of cholera as it prevailed in Russia,

as the figures show the total of cases in the Russian Empire for the epidemic of 1892 was 555,010 and 267,880 dead. It should be remembered, in this connection, that the means of disinfection and the sanitary measures adopted were fully in accordance with the latest teachings on the subject. A reading of this book will increase our thankfulness that our country has again escaped a visitation during the present epidemic.

The Blot Upon the Brain; Studies in History and Psychology. By WILLIAM W. IRELAND, M.D., Edinburgh. New York: G. P. Putnam & Sons. Edinburgh: Bell & Bradfut. Chicago: A. C. McClurg & Co. Second edition, pp. 398. 1893.

This book is a study of diseased functions of the brain, such as hallucinations of sight and hearing, hereditary neuroses, fixed ideas, unconscious cerebration, wordless thought and relation of words to thought, left-handedness and right-handedness, mirror writing, and of the dual functions of the double brain. It is rare that an author is enabled to invest highly scientific literature with the charm of romance or with the attractions of historic details, but in this case, under the illustrations of the "Insanity of Power," the author has spoken of the debasing effect of unchecked power, and gives as examples the Claudian Julian family, Augustus, Drusus, Julia, Tiberius, Caligula, Mohammed, Ivan the Terrible, etc. Under hallucinations he refers to the character of the hallucinations of Mohammed, Martin Luther and Joan of Arc, and the cases cited through the book are of a most interesting character. The style of the author is unusually entertaining, and it certainly adds no little to the value of the book that one is able to read it, without at the same time undergoing severe mental discipline.

System of Genito-Urinary Diseases, Syphilology and Dermatology. By various authors. Edited by PRINCE A. MORROW, M.D., Clinical Professor of Genito-Urinary Diseases in the University of the City of New York. Vol. II, Syphilology. pp. 917. New York: D. Appleton & Co. 1893.

In this volume, which has been devoted to the general study of syphilis, modern bacteriologic researches are given a prominent place, and the relations of syphilis to tuberculosis, rachitis, tabes, and many obscure diseases of the nervous system have received consideration. The relation of syphilis to the public health and its socio-economic aspect have been touched upon. The wants of the practitioner have been cared for by giving a practical turn to the various articles. The illustrations are superior to those ordinarily encountered in works of this class, and the publishers call attention to certain new methods by which photography and lithography have been combined. The typo-gravure process in colors is employed in several of the works, and the illustrations, as a class, are finer than have appeared in any work submitted to us during the year. The half-tone reproductions are superior to any that we have seen elsewhere. We have no hesitation in saying that this volume surpasses any recent work on the subject which has fallen under our observation.

An Elementary Text-Book of Biology: Comprising Vegetable and Animal Morphology and Physiology. By J. R. AINSWORTH DAVIS, B. A. Professor of Biology and Geology in the University College of Wales, Aberystwyte. With numerous illustrations and glossary. Second edition. Vol. II. Price $6.00. London: Charles Griffin & Co. 1893.

This work is divided in two parts, of which Part I is devoted to Vegetable Morphology and Physiology, and Part II to Animal Morphology and Physiology. As a text-book, and not less as a book of reference, it deserves a place in the library. The work is especially valuable at this time, when the schools are demanding higher requirements as preliminary to matriculation. It will be found almost indispensable to those wishing to obtain a thorough groundwork for bacteriologic study. Two centuries have passed since Francisi Redi published his classical experiments, *De Generatione Insectorum*, following William Harvey, who demonstrated that all life is from an ovum or seed. The little microscope of Redi, simple though it was, was the lever that lifted the dark veil, which hid the passageway to the biologic discoveries, now tersely set forth in this work of Davis. May the close of the next bi-centennial show as great an advance!

International Clinics. Vol. III. Third series, 1893. Edited by JOHN M. KEATING, M.D., JUDSON DALAND, MITCHELL BRUCE and DAVID W. FINLAY. Philadelphia: J. B. Lippincott & Co.

The series for this quarter includes clinics from the following American teachers: Edmund Andrews, John Ashhurst, I. E. Atkinson, Norman Bridge, Henry T. Byford, William B. Canfield, I. N. Danforth, E. D. Fisher, Geo. W. Gay, Arpad Gerster, William Goodell, John B. Hamilton, Frederick P. Henry, M. B. Hutchins, E. F. Ingals, George M. Lefferts, M. D. Mann, Thos. J. Mays, Chas. K. Mills, W. O. Moore, Paul F. Mundy, Ohmann-Dumesnil, Roswell Park, F. S. Parsons, Wm. H. Porter, A. P. Randall, A. J. Skene, James Tyson, R. F. Weir and others.

The popularity of this series is growing year by year, and it is apparent that they are more useful on the subjects of which they treat (and what is not treated in the course of these clinics) than the ordinary text-book, for they represent the actual practice of gentlemen qualified to fairly represent the approved methods of the day. The publishing of the work is well done and the illustrations are excellent.

The Medical News Visiting List for 1894. Weekly (dated, for 30 patients); Monthly (undated, for 120 patients per month); Perpetual (undated, for 30 patients weekly per year; and Perpetual (undated, for 60 patients weekly per year). The first three styles contain 32 pages of data and 176 pages of blanks. The 60-Patient Perpetual consists of 256 pages of blanks. Each style in one wallet-shaped book, pocket, pencil, rubber, and catheter-scale, etc. Seal grain leather, $1.25. Philadelphia: Lea Brothers & Co. 1893.

This visiting list is one of the most useful. The usual printed matter will be found. The tables are accurate, the decimal doses are given and it has a valuable index whereby any part of the book may be readily found. We notice the catheter gauge has the decimal or French scale and the alleged "American scale" as well. The latter was never adopted by any authoritative organization, or by any considerable number of individual surgeons. The decimal scale, founded on the subdivision of the meter, is now generally used even by the British themselves.

The Orum System of Voice Education.—By JULIA A. ORUM Principal of the Philadelphia and Mountain Lake Park Schools of Elocution. Philadelphia. 1893.

This little book begins with a "simple elucidation of the elemental functions of the body in the expression of sentences." The author has been engaged in the study and teaching of elocution, based on the Fennell method, for the past sixteen years and is therefore in a position to write ex cathedra on the subject.

The action of the body in respiration is clearly stated, the philosophy of vocalization in singing, reading and speaking is given in easy lessons, and the work, on that account, will be found useful for young scholars, and perhaps for those children of larger growth whose habits of speech are not too firmly fixed to be changed.

The Physician's Chart Book. By J. A. HOWKINS, M.D. New York: Bailey and Fairchild. 1893. Price, 50c.

This, as its name implies, consists of blank charts of temperature, respiration and pulse rate; of pocket size, bound in one volume.

Chorea or St. Vitus' Dance in Children. By OCTAVIUS STURGES, M.D., F.R.C.P., Senior Physician to the Hospital for Sick Children. London: John Bale & Sons. 1893. Second Edition. Price 5s. ($1.25).

This little work is occupied with a description of chorea, several hypotheses which have been provided to explain it, its alleged rheumatic connection, and its various complications. In Chapter XI there are a number of illustrative cases, together with comments thereon. The appendix contains an abstract of 177 cases. In the matter of treatment, the author recommends care in hospital for the majority of cases. In the matter of drugs, the author says: "Finally, we come face to face with the question of drugs. Apart from narcotics, whose use is limited to severe cases, and apart from ordinary medicaments, such as aperients, is there any drug directly serviceable in the sense of having some specific action? In my belief there is none." The author does not doubt the virtue of arsenic in certain cases and under certain limitations, but he does not believe in the indiscriminate use of any drug.

Manual of Bacteriology for Practitioners and Students, with Special Reference to Practical Methods. By DR. S. L. SCHENK, Professor Extraordinary in the University of Vienna. Translated from the German, with an Appendix by W. R. DAWSON, M.D., University of Dublin. London: Longmans, Green & Co. Chicago: The W. T. Keener Co. Price, $3.00.

The present is practically a new edition in English of Prof. Schenk's "Grundriss der Bacteriologie" published recently in Germany. The work includes chapters on the general morphology and biology of microörganisms, apparatus and re-agents, nutrient materials and methods of cultivation, examination of microörganisms under the microscope, bacteriologic analyses of air, water, earth and putrefying substances, pus. organs and cavities of the body and their contents, respiratory tract, and in articles of diet. In the Appendix, by the translator, is an account of Haffkine's alleged vaccination against Asiatic cholera, account of the parasitic protozoa, the action of light on microörganisms, and various formulæ. The work is printed on first quality of paper, the illustrations are good, and it forms an instructive addition to bacteriologic research.

Medico-Chirurgical Transactions, Published by the Royal Medical and Chirurgical Society of London. Vols. LXXIV and LXXV. London: Longmans, Green & Co. 1891 and 1892.

These transactions represent what is best in London medical and surgical literature, as presented to this old and honorable Society. The enumeration of the titles alone, with the names of the authors, would suffice to show the readers of the JOURNAL the high character of the essays and addresses contained in these two volumes. President for 1891, Timothy Holmes; for 1892, Sir Andrew Clark, whose death we noticed in the last number of the JOURNAL.

Text-Book of Normal Histology, Including an Account of the Development of the Tissues and of the Organs. By GEORGE A. PIERSOL, M. D., Professor of Anatomy in the University of Pennsylvania. Pp. 439. Philadelphia: J. B. Lippincott & Co.

This book is intended to be a text-book on Normal Histology and a condensation of some of the larger works, and it is sufficiently full for the average purposes of the student. Like all medical works emanating from this well-known publishing house, the paper is good, the illustrations fair. The histology of the different tissues of the body is well shown in the book. The embryologic portion is placed before the discussion of the normal histology of each subject. For those not possessing the large and exhaustive work of Minot, this portion of the book will be appreciated, but it must be confessed that there are great omissions in this branch of science. Comparison with recent histologic text-books of its class shows it to be concise, clearly stated, accurate and systematic, although it is not clear why the discussion of the development of certain tissues should be placed in some instances at the head of the chapter, in others in the middle, and in others at the end. However, so long as it is stated in the book, one need not cavil. As a whole, the book is to be commended as a painstaking and valuable contribution to the literature of the time.

Leonard's Physician's Pocket Day-Book. Bound in red morocco, with flap, pocket and pencil loop. Price post-paid, $1.00. Published annually by the Illustrated Medical Journal Co., Detroit, Mich.

This visiting list is again on our table, and we had hoped to see some revision. The dose tables are given only in the old fashion and on page 11 a table for conversion is given which is useless for practical purposes. As the new Pharmacopeia requires the metric or decimal system it will be seen that the list fails in that particular.

Outlines of Obstetrics; a Syllabus of Lectures Delivered at the Long Island College Hospital. By CHARLES JEWETT, A.M., M.D. Edited by HAROLD F. JEWETT, M.D. Philadelphia: W. B. Saunders. 1894. Price, $2.00.

This book is a rather elaborate syllabus of the author's course of lectures on obstetrics, and will be found useful alike to students and teachers.

Exercises for Pulmonary Invalids. By CHARLES DENISON, A. M., M.D. Professor of Diseases of Chest and of Climatology, University of Denver. Denver: Chain & Hardy. 1893.

This is an essay of twenty-six 16 mo. pages. It was read by the author before the Medico-Climatological Congress of World's Fair, and printed according to a resolution of the same. It contains elementary instruction on pulmonary gymnastics, with diagrammatic illustrations.

Messrs. Bailey & Fairchild, announce for next month a book by DR. L. DUNCAN BULKLEY, on "Syphilis in the Innocent." The work will be complete in about 350 pages, and is the enlargement of an essay which was awarded the Alvarenga Prize in 1891, and printed in the JOURNAL of November 11.

Chemistry and Physics; a Manual for Students and Practitioners. By JOSEPH STRUTHERS, Ph. B., D. W. WARD. Ph. B. and CHARLES H. WILLMARTH, M.D. Edited by Bern B. Gallaudet, M.D., Demonstrator of Anatomy, College of Physicians and Surgeons, New York. Philadelphia: Lea Brothers & Co. No date.

This is one of the best and most complete of the "Students Quiz Series," issued by this well-known house. It is an excellent reference book for practitioners, desiring to refresh their knowledge of chemistry, not less than for the student or young graduate preparing for examination.

Essentials of Minor Surgery, Bandaging and Venereal Disease. Prepared especially for students of medicine, by EDWARD MARTIN. A.M., M.D., etc. Second edition, 78 illustrations. Philadelphia: W. B. Saunders. 1893. Price, $1.00.

This book is one of the "Saunders Question Compends," and contains much useful information.

Climates of the United States. In colors. Popular edition of Denison's Charts, with Additions. By CHARLES DENISON, A.M., M.D., Professor of Diseases of the Chest and of Climatology, University of Denver. Chicago: The W. T. Keener Company. 1893. Price, $1.00.

This is a very handy series of maps and tables, based on Government statistics and surveys. As a reference work its place could not well be supplied.

Diseases of the Skin; a Manual for Students and Practitioners. By C. C. RANSOM M.D., Assistant Dermatologist Vanderbilt Clinic. Philadelphia: Lea Brothers & Co. No date.

This is one of the "Students' Quiz Series," and for those desiring to use "ponies" will be found useful. The formulæ

at the end of the book are written in the old system of weights and measures.

Outline of Physical Diagnosis of the Thorax. By ARTHUR M. CORWIN, A.M., M.D. Demonstrator of Physical Diagnosis in Rush Medical College. Chicago: The W. T. Keener Company. 1893. Price, $1.00.

This consists in a series of tabular statements of the subject of physical diagnosis. It is intended for the use of students, and by them will doubtless be appreciated.

NECROLOGY.

Dr. G. N. Worley, Williamsport, Md., November 6.

Dr. C. A. Loose of Peabody, Kan., November 6.

Dr. Charles L. Reed, at LaCrosse, Wis., November 5.

Dr. Geo. N. Duzan, at Indianapolis, Ind., November 6.

Dr. E. E. Williams of Reedsburg, Wis., died at Janesville, November 4.

Dr. Thomas Cuddeback of Big Hat, N. Y., November 8. He was graduated at the Medical Department of Yale College, 1847.

Dr. Barrack Offutt of Rockville, Md., died suddenly of heart disease at his home in Potomac District, in the fifty-eighth year of his age.

Dr. Samuel Rowell, 72 years old, of Jersey City, was found dead in bed November 4. Heart disease is supposed to have been the cause of death.

Dr. Morton Robinson died at Newark, N. J., aged 69. He was born in Wakefield, R. I., and graduated from the Metropolitan College, New York, in 1856.

Dr. H. D. Lachenour was found dead on a couch in his room November 6, at Easton, Pa. Heart disease was the fatal ailment. The deceased was 55 years old.

Dr. R. B. Jessup, Sr., one of the best-known physicians and surgeons of the State, died November 9, at Vincennes, Ind. Dr. Jessup was a member of the late Gov. Hovey's staff. He leaves a large estate.

Dr. Stephen Crosby Martin of Brookline, died November 5 at the age of 33. He was a son of the late Dr. Henry A. Martin of Roxbury, and was a graduate of the Harvard Medical School, class of 1874.

Dr. John Magoffin, one of the oldest physicians in St. Louis, died November 3, at Kirkwood, aged 74 years. Dr. Magoffin had resided in St. Louis since 1854 and at one time had the largest practice in the city. Of late years he had confined himself more to his office, but was a hard worker up to about five weeks ago, when he suffered a stroke of paralysis.

Dr. James Belvin, formerly of Virginia, died in Belgium November 4. He was a graduate of the Medical College of Virginia and was a surgeon in the Confederate States Navy. After the war he went to Paris, where he practiced his profession with success. He was, however, forced by ill health to give up his practice and was engaged as the private and family physician for the Duke of Durham, and was traveling with the Duke when the latter married some time ago in Florida.

Dr. Chauncey M. Hulbert, one of the oldest physicians of Barnstable County, died suddenly at his home in South Dennis, Mass., November 6. Dr. Hulbert was born in East Sheldon, Vt., in 1818, was a student with Dr. Horace Easton, Governor of Vermont, and graduated at Woodstock, Vt., in 1844. He came to South Dennis in 1852, where he has since practiced. He has been President of the Barnstable County District Medical Society, and for the past eighteen years its Treasurer.

Dr. Charles Wesley Stanley, who died in New York city on the 26th ult., was born in Conway, N. H., on May 28, 1828. He received his early education at the Oneida Institute, and was graduated in 1866 from the Medical Department of the University of New York. In 1870 he removed to Chicago, where for over twenty years he was actively engaged in the practice of his profession. Dr. Stanley was quiet and retiring in disposition, and a devoted student. As a physician he was capable and sympathetic, and by his kindly nature he endeared himself to all with whom he came in contact. He was married in 1869 to Miss Harriet Armstrong, who survives him. A. L. G.

Dr. Abraham Clifford Wolf Beecher, who was stricken with apoplexy in the Masonic Temple, died November 7.

Dr. Beecher was born in Bainbridge, Lancaster County, March 26, 1859. He was the son of Jacob F. Beecher, for a number of years a wholesale dry goods merchant of this city. He removed to Philadelphia with his parents in 1852, and after studying in the public schools entered the Philadelphia College of Pharmacy, but later abandoned the study of pharmacy for that of medicine, graduating from Jefferson College in 1867. For two years thereafter he was resident physician at the Philadelphia Hospital, and later acted as assistant to the late Professors Wallace and Meigs at Jefferson Medical College, where he also became Assistant Demonstrator of Anatomy, holding the latter position for a number of years. About four years ago he resigned, devoting himself entirely to his private practice.

Dr. Charles Frederick Crehore died at Newton Lower Falls, Mass., November 8, aged 65 years. He was known throughout the State as a philanthropist, and was one of the leading citizens of Newton, having been engaged in manufacturing for over thirty years. He was graduated from Harvard Medical School in 1854, and practiced his profession till 1865, serving through the war as surgeon. Since 1865 he devoted his attention to the Crehore Press-Board Works, succeeding his father. Dr. Crehore was regarded with respect and veneration by the mill hands employed by him. His conduct toward them was always marked by the utmost generosity. It was his practice to pension all the old laborers in his employ who were unable to support themselves. He was a profound student of social questions and of medical science. Some of his papers on election methods and microscopic analysis of germs were considered especially valuable.

Dr. David Judkins for over a half century a physician at Cincinnati, died November 12. He was in his 76th year and until a year ago seemed hale and hearty. He then met with an accident which precipitated the end. He fell down on a slippery staircase and injured the back of his head. He apparently recovered, but not for long. The injury continued to reappear in the form of sleeplessness until the fatigue began to prey on his constitution. He was attacked by periods of extreme weakness, and only the other day fainted while on the streets. After this attack he was confined to his room. Some days since it became apparent he would not recover and his relatives were fully prepared for the end. He had been a Trustee of Cincinnati Hospital since it was built, in 1867. He was graduated at Medical College of Ohio in 1842.

Prof. Hermann A. Hagen.—Prof. Hermann A. Hagen of Harvard College, the famous entomologist, died at Cambridge, Mass., November 9.

Hermann August Hagen was born in Konigsberg, Prussia, May 30, 1817. For the last two hundred and fifty years some ancestor of his has been connected with the University of Konigsberg. Young Hagen was graduated from the university and received his medical degree in 1840. Later he studied also in Berlin, Vienna and Paris. He returned

to Konigsberg and for three years was First Assistant at the surgical hospital. From 1863 to 1867 he was Vice-President of the City Council and member of the School Board. Meanwhile he had been studying entomology, and was invited by Louis Agassiz to come to Cambridge as an assistant in entomology at the Museum of Comparative Zoology. In 1870 he was made professor of that science at Harvard. He was a Fellow of the American Association for the Advancement of Science and other scientific societies. His publications include some four hundred articles. As an entomologist Hagen was said to rank first in America.

HOW SHALL OUR LEPERS BE CARED FOR?

ABSTRACT.

Read before the World's Public Health Congress, October, 1893.

BY BENJAMIN LEE, A.M., M.D. Ph.D.

SECRETARY OF THE STATE BOARD OF HEALTH OF PENNSYLVANIA.

The State Board of Health of Pennsylvania and the Board of Health of the City of Philadelphia have had some unpleasant experiences with lepers which have led both of these bodies to appeal to the general government to establish a colony or colonies, where these unfortunates might be provided with the comforts of home and medical care and nursing and, at the same time might cease to be a horrid menace to the health of those with whom they were thrown in close contact. In order to arrive at a somewhat definite opinion as to, first, the need for the adoption of such a measure, and secondly, the general drift of opinion on the part of those who had given the subject thoughtful attention, in December, 1891, I addressed circular letters of inquiry to the Secretaries of all State and Provincial Boards of Health in the United States and Canada, and to prominent dermatologists.

Replies to those inquiries have been received in twenty-three instances.

They indicate, briefly, that cases of the disease have been recognized and made the subject of official report in seventeen States and Provinces.

In ten States or Provinces cases exist at the present time under the observation of the authorities, namely, New Brunswick, twenty-two cases; British Columbia, seven cases; New York, six cases; Pennsylvania, four cases; Illinois, two cases; Iowa, one case; Minnesota, seven cases; Wisconsin, four cases; Louisiana, forty cases; California, twenty-four cases, making in all 117 cases.

At the well-known lazaretto at Tracadio in the Province of New Brunswick, provision is made for the comfort, care and treatment of these unhappy beings in a manner in harmony with the dictates of humanity and the requirements of modern science, while, at the same time, they cease to jeopardize the health and happiness of others. The United States has only gone so far as to make the affection quarantinable at the sea coast and to order those found suffering from it on arriving vessels to be at once returned to the ports from which they came. In the different States of the Union, the widest diversity prevails both in theory and practice. The only place in which segregation is practiced and at the same time humane provision is made for the shelter, maintenance, medical attendance and nursing care of lepers, is the city of Philadelphia. The manner in which the county authorities who have the care of the other case in Pennsylvania, discharge that duty is by no means in keeping with the dictates of humanity or the laws of sanitation.

While their numbers are few, no little rural community, very few States, even—feel justified in going to the expense of establishing a lazar house or colony. Is it wise to wait until State after State finds itself compelled by their increasing numbers to take this step, or is it not rather the duty of the central government to gather them all into one properly supervised community where they can have the companionship of their fellows, the comforts of a thoroughly furnished home, and the advantages of the best medical and surgical skill?

Such is the distinctly expressed opinion of nineteen of the twenty-one eminent dermatologists who favored me with replies to my circular of inquiry.

In conclusion, I desire to say that in determining the importance of this question and the necessity for governmental interference, the numerical method is entirely misleading. One case of leprosy outweighs a hundred of any other disease. If there were but ten lepers in the land instead of more than ten times ten, it would be equally the duty of Congress to initiate measures to prevent if possible, a single addition to the horribly afflicted company.

CORRESPONDENCE.

Biography of McDowell.

NEW YORK, Nov. 8, 1893.

To the Editor:—On page 710 of the JOURNAL for Nov. 4, 1893, Dr. Thomas Hubbard states that copies of the life of Ephraim McDowell were not forthcoming to subscribers in Toledo. About two years ago I paid $5.00 in advance for a copy of the work in question and have not as yet received the book. The publishers disclaimed any knowledge of my subscription a year ago. I took a charitable view of the matter and supposing that a woman's business methods might accidentally have been at fault, I decided to charge up the $5.00 to loss account. Very truly yours,

ROB'T T. MORRIS.

ASSOCIATION NEWS.

Change of Date of Meeting—Official Notice.—In order to enable the State Medical Societies to send instructions as to their action in the matter referred to them by the AMERICAN MEDICAL ASSOCIATION at its recent meeting at Milwaukee, and for other reasons, the time of meeting of the ASSOCIATION at San Francisco has been changed from the first Tuesday in May to the first Tuesday in June, 1894.

WILLIAM B. ATKINSON, Permanent Secretary. JAMES F. HIBBERD, President-Elect.

SOCIETY NEWS.

American Electro-Therapeutic Association.

The Third Annual Meeting Held in Chicago, Sept. 12, 13 and 14, 1893.

AUGUSTIN H. GOELET, M.D., President.

FIRST DAY—SEPTEMBER 12.—MORNING SESSION.

The meeting was called to order at 10:15 A.M. by the President.

The first order of business was discussion and vote upon the amendment to the constitution; that Article III shall read: "The members of this Association shall consist of Ordinary Fellows, Honorary Fellows and Corresponding Fellows, who shall *either* be practitioners of medicine in good standing, or *electrical experts*,"—resulting in the adoption of the amendment.

Upon motion of DR. W. J. HERDMAN of Ann Arbor, the article defining the privileges of Associate Fellows was amended to read: "They shall enjoy all the privileges of Ordinary Fellows, excepting to vote or hold office, but shall not be required to pay fees or dues."

The following persons were then elected members of the Association as Ordinary Fellows:

Dr. H. D. Lawhead, Woodland, Yolo County, Cal.; Dr. Frank P. Norbury, Jacksonville, Ill.; Dr. A. Brothers, 162 Madison Street, New York, N. Y.; Dr. A. Palmer Dudley, 640 Madison Avenue, New York, N. Y.; Dr. N. W. Webber, Detroit, Mich.; Dr. Homer C. Bennett, 8 Boone Block, Lima, Ohio; Dr. George L. Laforest, 274 St. Denis Street, Montreal Canada; Dr. Wm. S. Gotheil, 25 W. 53d Street, New York, N. Y.; Dr. M. M. Weil, 125 E. 76th Street, New York, N. Y.; Dr. Fred H. Morse, 74 Boylston Street, Boston, Mass; Dr.

Wm. F. Waugh, 1725 Arch Street, Philadelphia, Pa.; Dr. Flynn S. Hayes, Venetian Building, Chicago, Ill.; Dr. Horatio R. Wood, Chicago, Ill.; Dr. Elliot H. Woolsey, San Francisco, Cal.; Dr. D. R. Brower, Chicago, Ill.

ASSOCIATE FELLOWS.

Mr. A. E. Kennelly, Chief Electrician of the Edison Laboratory, Orange N. J.; Mr. J. J. Carty, Vice-President N. Y. Electric Society, N. Y.; Mr. H. Newman Lawrence, Member Institute Electrical Engineers, 5 Guilford Road, S. Lambeth, London, Eng., S. W.; Mr. M. J. Jenks, Electrical Engineer, 44 Broad Street, New York.

HONORARY FELLOWS.

Prof. Edwin J. Houston, 1809 Spring Garden Street, Philadelphia, Pa.; Dr. Thomas Keith, London, England; Mr. A. E. Dolbear, President, Tufts' College, Boston, Mass.; Prof. H. Carhart, Ann Arbor, Mich.

PRESIDENT AUGUSTIN H. GOELET, M. D., read his address on

INFLUENCES GOVERNING THE PROGRESS OF ELECTRO-THERAPEUTICS.

Fellow-Members of the American Electro-Therapeutic Association:—Last year, in a spirit of humor, this Association was referred to as a vigorous infant. True, its growth has been somewhat astonishing, but when it is considered that it boasts of three parents its vigor is readily explained. No doubt each member of this Association feels so keen an interest in its welfare as to regard it in the nature of a tender offspring, and while it may have started out with but three, it now has many parents who will continue to nurture it until it develops and prospers beyond their most sanguine expectations.

In the beginning, it was said of this infant, that there was no place for it; that it could never prosper, but would always be feeble; and it was predicted that it would die young. Yes, even before the completion of its first dentition.

If its present state of healthfulness, and the fact that it has already passed the period of adolescence, may be accepted as evidence upon which to base a prognosis, it is destined to a long life of great usefulness and a ripe old age.

Heretofore our meetings have been held in New York and Philadelphia. But we have outgrown those cities, and for this reason have come to Chicago.

THE NEED OF AN ELECTRO-THERAPEUTIC SOCIETY.

The inauguration of this Association marks an event in medicine quite as important as any that has occurred within the present century, since it succeeded in establishing a recognized position for an important and long neglected branch of therapeutics. The success of this Association is sufficient evidence that it was needed. Its future usefulness can be readily foreseen, not only by those directly interested in electro-therapeutics, but also by those interested in scientific investigation.

Many of you have realized the utter futility of presenting papers upon electrical subjects, particularly technical papers, before other medical societies, where the spirit of true discussion is lost in an unreasonable opposition to everything pertaining to electricity, or by feeble objections, devoid of both argument and reason. This teaches nothing and profits no one. Opposition of a reasonable nature is wholesome and acts as a stimulus to renewed investigation, but flat denials or personal contradictions on the part of those who know nothing of the subject, made apparently for the purpose of obstructing progress in scientific research, will never succeed in settling a disputed point, nor add one iota towards that end.

This has its origin in the difficulties besetting the general profession. The demands upon their time, the avalanche of new drugs requiring study, perhaps to be soon discarded, so engross as to make impossible, research and trial or somewhat older electricity, which to many conveys but a name.

Here we meet upon common ground. We all understand electricity, or hope we do, and those who enter into the discussions do so with an earnest desire to bring out all facts and ascertain the truth. The avowed purpose of this Association is the development of electro-therapeutics; and a spirit of true investigation pervades our proceedings.

The work so far has been very creditable, in spite of its being a young organization, embracing an entirely new field, about which there has been necessarily much uncertainty. We must fully realize, however, what we are endeavoring to do. We are building up an entirely new system of therapeutics, and our work must be of such character as to bear criticism. The mere fact that the results have been good will not suffice. A rational explanation for the methods adopted must be given. In other words, our methods must bear investigation, and must bear the stamp of scientific reasoning. Our results may be doubted, but our methods, based upon scientific laws, can not be questioned. There has been too much empiricism about the older therapeutics, which still exists to some extent; but this would be no justification for anything of a similar nature in electro-therapeutics. Unless a very decided improvement upon older methods be demonstrated, there will be no reason for its preferment. Enthusiasm, though justifiable, should never lead to statements which can not be substantiated. Our assertions, on the contrary, must always be permeated with truth, which is beyond cavil.

We have many things to contend with in introducing electro-therapeutics to the profession, chief of which is an opposition to every new inroad upon old and established methods.

THE OPPOSITION TO ELECTRO-THERAPEUTICS.

The progress of electro-therapeutics is retarded by a want of appreciation by the profession, born of unfamiliarity with electro-physics and electro-physiology, and is in a great measure attributable to restricted medical education. This, fortunately, is being gradually overcome; but progress must necessarily be slow until medical colleges can be impressed with the importance of including this branch in their regular curricula. Some schools have shown a progressive spirit and are endeavoring to meet the demand for a more thorough knowledge of the requirements for the successful application of electro-therapeutics. By far the larger number of medical colleges, however, appear to be blind to its importance and to their own interests. Occasionally, yet reluctantly, the attempt is made to impart some information concerning electro-therapeutics, but neither the instructor nor the student has any knowledge of electro-physics and the result is an ignominious failure.

Electro-therapeutics can not be appreciated, or successfully applied, without a thorough practical knowledge of the fundamental principles governing the action of electricity.

Restricted medical education has done more than anything else to retard the progress of electro-therapeutics, because the practicing physician, who feels inclined to adopt it, knows nothing of the physics of the subject, and usually goes about learning it in the wrong way. Instead of making himself familiar with the groundwork or learning the technique, he commences by purchasing a battery and trying it on a patient. If he chance to succeed at first, he will be encouraged to continue, and may eventually become impressed with the importance of learning something of the mysterious agent. This is learning electricity backwards. If he fails, he regards it as worthless, casts it aside, and never loses an opportunity to decry it on every occasion. You, my hearers, know this; but the outside world does not.

The medical graduate of the future may be more fortunate. He may be taught electro-physics and electro-physiology, and will thus be able to appreciate electro-therapeutics and employ it intelligently. If all practicing physicians to-day possessed this knowledge, they would—every one of them—use electricity in some form in their every-day practice, instead of ignoring its advantages and allowing their patients to go to the specialist for this form of treatment.

Another thing which militates against its more universal adoption by the medical profession, is that the application of electricity is regarded as complicated and troublesome. Such agents as antipyrin, phenacetin, viburnum and ichthyol or any of the new drugs, are employed by preference, because their administration involves no particular trouble or inconvenience to the attendant, and requires no special knowledge or training. No intelligent reason can be given for their preferment, nor can their action be explained. They are accepted, without question, upon the statements of the manufacturers, as put forth in the prospectus which announces the drug. What is to be said of one who objects to the use of electricity, when furnished a rational explanation of its action and abundant evidence in proof of its value, when he considers his own convenience rather than the interests of his patients?

Much of the prevalent opposition to modern electro-ther-

apeutics is the result of the imperfections of the past methods, which certainly were unscientific. Many who have ignored it, or who have discarded it after having employed it, according to methods in vogue ten years ago, are not cognizant of the advances since made. Consequently it is frequently referred to, in a patronizing way, as a palliative measure. Electro-therapeutics of to-day present a wide difference by comparison with electro-therapeutics of even five years ago. The advance in this branch of therapeutics has been truly remarkable, thanks to some indefatigable workers among us, as well as those now so well known in France, the land which gave birth to the present scientific application of electricity to the cure of disease and the alleviation of human suffering. Until within quite a recent period, any one who ventured to employ this agent in the treatment of disease or expressed confidence in its capabilities was regarded as a charlatan. Now, the electro-therapeutist occupies an exalted position in the eyes of all, save a few opponents who can see nothing good in anything they do not understand. These would-be obstructionists are, however, rapidly decreasing in number, their own demise being accomplished by their very vigorous denunciation of the value of electricity, notwithstanding evidence to the contrary.

To deny the value of electricity because of failures which may be due to a misconception of its proper indication and application, or where it may be supposed, with a reasonable degree of certainty that the apparatus was faulty or the technique was imperfect, is equivalent to condemning a drug because one sample of it is found to be inactive, or because it failed when unwisely used where it could not be expected to produce an effect.

To say, as some do, that its merit can not be conceded, because the nature of its action can not be comprehended, is an acknowledgment of mental inferiority not to be expected of a medical man in this progressive and enlightened age.

If electricity has proved useful in the hands of those seeking to favor the progress of medical science, and this has been repeatedly verified, there is certainly reason for its claim upon the attention of the profession. If too much has been claimed for it, it is but a repetition of what follows in the wake of every new idea in medicine. After all, a better knowledge and understanding, resulting from subsequent investigation, may prove some of these claims not to have been exaggerated. If we oppose every new idea and deny its utility there would be no progress, and we would cease to be scientists.

We must contend with this opposition for the present. Eventually it will be overcome, but much depends upon the character of the work done by this Association, and upon the personality of its members.

THE OPPONENTS OF ELECTRICITY.

The opponents of electricity may be divided into three classes, viz: those who openly oppose it; those who profess not to believe in it, but use it only because their patients desire it; and those who believe it capable of curing every ill flesh is heir to.

Of these, its avowed opponents are, by far, its feeblest enemies. Their denunciation is an open confession of ignorance and is evidence of narrow mindedness which injures them more than it injures the agent they so vainly endeavor to suppress.

Those of the second class are very dangerous enemies. They use electricity, though professing no faith in it, only to please their patients. They claim to understand its application in all its details. Its use in their hands, though expertly employed, (?) is destined to prove to the patient its utter worthlessness as a therapeutic measure. If, by chance, the patient is benefited, it is attributed to some other agent coincidently employed. No cognizance is taken of the actual effect produced, and if a good effect is observed it is carefully buried; care being taken that no record of it leaks out; for their interests, for reasons best known to themselves, are against electricity, and it would not do to admit anything in its favor. Doubtless every one of you are familiar with this class.

Those of the third class are, I believe, the greatest enemies of this agent. They employ it in every condition of disease, regardless of its applicability. Electricity to them is a magic wand which, without a why or a wherefore, brushes aside all obstacles in the shape of disease. They appear to believe electricity, no matter how employed, a power that disease can not resist. That, in other words, it is only necessary to inject it into the system as a drug is injected under the skin, and all morbid processes are destroyed. They show an entire disregard for the pathologic condition or the cause operating to maintain it, trusting to the remedy to supply the place of brains. Their views carry them to extremes, and hold them up to the ridicule of sensible practitioners. This class must be suppressed, and it devolves upon this Association to accomplish it.

To defeat the second class is a more difficult matter. It can be done only by educating the masses to an appreciation of the advantages of electricity. They can then judge for themselves where to place the credit of a cure, and they will be able to decide who is competent to administer this agent properly.

We need not concern ourselves with the first class. They will eventually accomplish their own destruction.

"Quem deus vult perdere, prius dementat."

THE WORK OF THE ASSOCIATION.

This Association from its inception has shown a progressive spirit. At the first meeting, two important committees were appointed to investigate scientific questions. At the second meeting, these were increased by four, so that there are now six which report at this meeting. The result of this work has not been altogether satisfactory, owing to some, as yet, insurmountable obstacles. Eventually the work of these committees will revert greatly to the credit of the Association. Every member appointed should throw his whole soul into the work for the coming year, and your presiding officer will be thankful for any suggestions which will aid him in appointing those best qualified, that the committees may be composed of real workers who have an interest in the work.

The association with us of other scientists from the electrical world is a step in the right direction. It will have an important bearing upon the future of this Association. It tends to broaden the scope of our proceedings, and must certainly be productive of mutual benefit.

The fixed discussions which were inaugurated at our last meeting have been the means of bringing out many important points and removing many doubts and uncertainties. These discussions have been made a feature of this meeting also, and I hope they will be continued each year. Those appointed for this meeting involve questions of the greatest importance, and are well worth the consideration of the profession at large, as well as of this body. The Executive Council, to whom the credit of selecting these subjects is due, are to be congratulated upon the selections. They have foreseen that the general profession should understand what views are entertained by those most prominent in electro-therapeutics, upon subjects which have been under dispute, and have shown wisdom in their choice, both of the subjects and those appointed to discuss them. Let this good work continue.

I would direct particular attention to the discussion upon "The Possibilities of Electricity in the Treatment of Fibroid Growths," arranged for this meeting. The question will probably not be entirely disposed of in this discussion, but the latest views of those most prominently identified with it will be brought out, and the conclusions up to date will be reached.

The other discussion, "The Influence of Frequency of Interruptions and the Character of Induced Current Waves upon Physiological Effect," is of the greatest importance in the therapeutic administration of the induced current, and its selection for discussion shows that this Association has a conception of the scientific requirements necessary for the most satisfactory results in employing this agent. The fact that these points have not been considered before in a comprehensive manner shows, likewise, that past methods have, to a great extent, been imperfect, and that realizing this we desire to make them more perfect. In this manner, important advances in electro-therapeutic methods are suggested and worked out.

Within the past five years, scarcely a year has elapsed without the development of some new and important feature, involving the application of this agent in some one of its forms. As an instance of some of these advances, the metallic or interstitial electrolysis popularized by Gautier, and the development of the alternating current by d'Arsonval, so it may be utilized satisfactorily for medical purposes, stand out conspicuously.

Metallic electrolysis, I regard as one of the most important additions to electro-therapeutics, and so expressed myself in a brief paper upon this subject which was presented at the June meeting of the New York Electro-Therapeutic Society. In this paper I drew attention par-

ticularly to the advantages of cupric electrolysis, and outlined many uses for zinc employed in the same manner. The effect produced by zinc electrolysis, as enumerated in the paper referred to, shows that it possesses distinct features which make it a valuable addition to our therapeutic resources. As contrasted with cupric electrolysis it possesses advantages which render it equally valuable.

For instance, in gynecological work the local action of the oxychlorid of zinc set free as a result of its decomposition by the current, when in contact with the tissues, may be readily appreciated. The local action of the zinc chlorid obtained in this manner is rendered more valuable because of the possibility of controlling the degree of action, as well as the penetration, by adjusting the current strength and duration of the application, thus varying the extent of chemic action. Additional advantage accrues from the fact that nothing is left behind to continue the action or provoke irritation, as is the case when a solution or pencil containing chlorid of zinc is employed. It was not recommended to be employed in a manner to produce extensive destruction of tissue, and for this reason a moderate current strength was advised. Thus it is possible to obtain the characteristic local action of the zinc chlorid with only a superficial caustic effect, and it is serviceable where the softening effect of the zinc is desired, and where the effect of the positive pole is demanded, or where the negative is contra-indicated. Another advantage, which appears to me sufficient to commend it, is the very moderate current strength needed to produce the local caustic action required, as compared with that necessary when the current is employed with non-attackable electrodes.

The softening effect produced by zinc electrolysis has been found useful likewise in keloids and fibroid growths, employed by means of puncture where the negative pole is contra-indicated. In some instances it was noted that the beneficial effect was greatly in excess of that attainable by simple electro-chemic decomposition of the tissues.

The experiments of d'Arsonval with the alternating current lead us to believe that, in thus revivifying, by improving and perfecting the necessary apparatus for its generation, an old and discarded form of the induced current, he has added another to our already numerous electro-therapeutic resources. Experiments show that this current is not only more easily borne, but is more soothing than the current from the ordinary induction coil, owing chiefly to the character of the wave produced.

The important improvements that have been made within the past two years in the induction apparatus for obtaining the interrupted induced current, otherwise known as the faradic current, deserves mention also. These improvements, involving an increased frequency of interruptions and an increased electro-motive force, render this current quite equal in point of value to the improved alternating current and quite as easily borne.

It will thus be seen that electro-therapeutics is continually progressing, and every year we are approaching nearer to a more exact science and perfect methods.

Though concerted effort for electro-therapeutics is still young, we already exert a decided influence upon the views prevailing in medicine. To maintain this we must resolutely continue the battle. We number among us men who command the respect of the scientific world, but we must ever seek stronger reënforcements. To that end, I would suggest, as an amendment to our constitution, that hereafter every candidate be required to present a paper which shall be submitted to the Executive Council previous to the annual meeting. They will thus pass upon his qualifications for membership before his name is proposed here to be voted upon.

If we would grow and prosper we must show continuous improvement. Let our motto, then be, progress, and let us every year take an important step in advance.

By conjoint efforts we will bring electro-therapeutics to that scientific plane which will make its most strenuous opponents our most cordial coadjutors. We will then reap the reward; the satisfaction of having done our duty; the best, the noblest, the sweetest satisfaction which can be given our profession.

REPORTS OF COMMITTEES ON SCIENTIFIC QUESTIONS.

On Standard Coils.—DR. W. J. MORTON, the Chairman, said that the subject was so large that it seemed premature to make a report on what should constitute a standard coil. The physical and physiologic effects are bringing out new points each month. Such a coil can be manufactured, but we do not yet know all the effects which are desired from them.

On motion, the Committee was continued.

On Standard Meters.—DR. MARGARET A. CLEAVES of New York, Chairman of the Committee, read the report.

Mr. President and Fellows of the Association:—Your Committee on standard meters beg leave to submit the following report:

Your Chairman is personally indebted to Mr. W. J. Jenks, electrical expert of the Legal Department of the General Electric Co. of New York City, and Fellow of this Association under the amendment to the constitution and to his technical assistant, Mr. Edwin W. Hammer of New York City, for exceedingly valuable help in making the tests and this report.

Mr. Jenks was invited by the President to coöperate with your Chairman in this work by request of the latter.

The test has been made with the greatest care and every effort was put forth to make it one of absolute accuracy.

It was necessary, in examining the instruments submitted, preparatory to a test, that the requirements of a thoroughly good meter be kept in mind. These requirements, as suggested by the experience of many, might be summed up as follows:

1. A good meter should have a clear, legible scale, fairly uniform over the range, and not crowded at different points. The question as to whether it is desirable or necessary to have a scale divided into fractions of a milliampère, and whether it is an advantage to have a low and high scale on one instrument, is one which the Committee has not passed upon.

2. The scale should be so clear that the operator can read it, while working on his subject.

3. The internal resistance should be low.

4. There should be no tendency to overheat with the strongest current employed.

5. A shunt is always a disadvantage, when employed with a disregard, accidental or unavoidable, to the possibility of its heating and thereby changing its resistance. A shunt, per se, is not fatal to the accuracy of an instrument, but it is best to avoid them except in those higher priced instruments, in which the best talent and most expensive materials have been applied to the satisfactory combination of conditions.

6. The instrument should be capable of indicating in all positions. This is possible in only those instruments not of the galvanometer type, and even then a change from the most favorable position is at the expense of delicacy of indication. It is an easy matter to adjust a mirror so as to compensate for this shortcoming.

7. Any instrument whose indications depend directly upon the local magnetic force is objectionable, for the reason that its indications are liable to be affected by iron in the vicinity or outside magnetic influences. This is true of all instruments of the galvanometer type, which is that type in which the current to be measured passes, not through the armature coil, but around the electro-magnet which influences the position of a magnetic needle suspended within its field of force.

8. The suspension system should be delicate and sensitive, and at the same time be unlikely of derangement in use or shipment.

9. It is an advantage for the meter to indicate with the current passing in either direction. However, this is a consideration which should not take precedence at the expense of accuracy. It is possible, knowing the characteristics of a meter in this respect, to so connect it up in circuit with the other apparatus as to always have the current pass in the proper direction.

10. A meter should be easily carried about, and

11. It should not be readily broken or put out of order.

(*To be continued.*)

The State Medical Society of Maryland will hold its semi-annual meeting at Annapolis, Md., Tuesday and Wednesday, Nov. 21 and 22. There is a prospect of a full and interesting meeting.

At a Meeting held for the purpose at the University of Maryland, Baltimore, the Medical Society of the University of Maryland was organized with the following officers: President, Dr. J. J. Chisolm; Vice-President, Dr. C. W. Mitchell; Secretary, Dr. W. B. Canfield, Executive Committee, Drs. J. E. Michael, W. B. Platt and J. M. Hundley. The Society will meet on the first Tuesday of each month,

and will be composed of the Faculty, Adjunct Faculty, members of the teaching and hospital staffs and graduates of the University. WILLIAM B. CANFIELD, M.D., Secretary.

Fox River Valley Medical Association.—The fifty-second semi-annual meeting of the Fox River Valley Medical Association was held in Aurora, Ill., November 7. A feature of the program was a discussion of therapeutics by Dr. Charles F. Hawley of Chicago, and Dr. B. F. Bill of Genoa Junction, Wis. Following officers were elected: President, Dr. W. A. Nason of Algonquin; Vice-President, Dr. R. F. Bennett of Elgin; Secretary and Treasurer, Dr. H. L. Pratt of Elgin. The program concluded with a banquet at Hotel Bishop.

MISCELLANY.

Mr. Gladstone's Physician.—Dr. William Henry Broadbent has been appointed as physician to Premier Gladstone, vice Sir Andrew Clark, deceased.

Gift to Yale Medical School.—The Yale Medical School will receive $25,000 by the will of the widow of Dr. E. Hart of Hartford.

Dr. J. H. Jenkins, formerly A. A. Surgeon in the United States Army, stationed in Arizona, was run down by a train at Hazelton, Penn., October 29, and fatally injured.

Harper Hospital, Detroit, celebrated the opening of the Swain Home and Duffield Memorial Cottage, to be used respectively as a home and training school for nurses, November 9.

The Chicago Clinical Review.—This interesting monthly has inaugurated a new department in the current number. That is a list of titles of the original articles and leading editorials that have appeared in the medical periodicals of the month.

Boston City Hospital.—This hospital secured a medal at the World's Fair for the excellence of its exhibit. The exhibit consisted of plans, photographs and other objects of interest in connection with the hospital service.

Dr. W. A. Brown was elected Demonstrator of Anatomy by the Faculty of Ensworth Medical College, St. Joseph, Mo., to fill the vacancy caused by the resignation of Dr. W. H. Wilson, who has been appointed Assistant Surgeon United States Army.

Irish Cholera Victims.—Archbishop Cleary of Kingston, will cause the erection of a statue on a mound in the hospital grounds in memory of the Irish immigrants who died at Kingston, Canada, during the cholera plague, 1847, to the number of over 1,000, and many of whose remains rest near and under the mound. The statue will be a life size picture of an angel of pure Carrara marble, cut in Italy from a solid block three tons in weight. It will cost $1,200.

To Abolish Coroners.—At a recent meeting of the Medico-Legal Society of New York, it was resolved to appoint a committee to prepare a memorial to be presented to the Legislature of the State, and to the approaching Constitutional Convention in favor, first, of abolishing "the office of coroner in the State of New York, and, second, the adoption of appropriate legislation and changes in the Constitution of the State that would remedy the defects in the existing system."

The New York Academy of Medicine at a recent meeting took action relative to memorializing the Legislature of that State, for the abolition of coroners, and the substitution therefor of medical examiners. The medical examiners have done well in Massachusetts where the coroners were dispensed with more than a decade ago. The State not only has saved money, but the service has been more efficient.

Professor Rudolf Virchow, the famous German pathologist and scientist, celebrated the fiftieth anniversary of his graduation from the University on October 21. The Berlin Medical Society of which he has been a member twenty-five years, elected him its Honorary President; the University of Berlin presented him an address in which he was called "the Prince among Physicians," and the Academy of Sciences and numerous German societies sent congratulations to him. Professor Virchow is one of the busiest men in Berlin. He is a member of the Reichstag and Landtag, rector of the University of Berlin, belongs to dozens of societies, makes speeches almost every day, and writes for a number of journals. He has a marvelous power for work, however, and never seems in a hurry.

Victory for Dr. Earl.—The jury in the $25,000 damage suit of Miss Caroline T. Doss against Dr. Archibald B. Earl of Kansas City, returned a verdict for the defendant, in Judge Slover's court, November 3. Miss Doss broke her arm in 1892. She procured the services of Dr. Earl to reduce the fracture. She alleged that the arm was crooked to the extent that she was maimed for life. Miss Doss is 68 years old and Dr. Earl, the defendant, is 75, and retired from practice years ago. He set up as defense that he set the arm purely as an accommodation as he had retired from practice at the time. He further alleged that the plaintiff was responsible for the deformity, as she did not protect the arm properly after it was set.

Municipal Hospital of Philadelphia.—The new pavilion hospital and disinfecting tank has just been completed on the grounds of the Municipal Hospital. The disinfecting plant is one of the most complete structures of its kind in the world, and was erected at a cost of $10,172. In this building all articles used in the hospital will be disinfected.

The new pavilion hospital was erected at a cost of $15,352, especially for the treatment of cholera cases, and has accommodations for upwards of one hundred patients. It is intended to utilize the structure entirely for the care and treatment of cases of diphtheria, which can be kept entirely isolated from patients afflicted with other diseases. The structure has a number of rooms for private patients, where they may be even more comfortable than at their own homes, and will enable many families to allow their sick to be taken there for private treatment.

Swam from Scylla to Charybdis.—Dr. Judson Daland, who has been investigating the cholera epidemic in Italy and Sicily for the Health Officer of New York, writes the following:

"While in Messina searching for cholera, in order to keep our Health Officer well informed of the sanitary condition of Sicily, I read of the terribly strong current and whirlpool in the Strait of Messina, more especially at that point between Scylla and Charybdis. It occurred to me that it would make a good swim, more especially as the hotel-keeper, who had lived in the little fishing village called Faro for thirty-two years, told me that no one had ever swam across, in the memory of the oldest inhabitant, although many had tried and failed, including the hotel-keeper himself.

"I took to the water at 4:10 P.M. and arrived in good condition on the Italian shore at 6:30 P.M., a distance of six or seven miles. I started from the Sicilian side at Faro, which corresponds to the Charybdis of the ancients, passed the rock called Scylla and was forced by the powerful current to make a landing at a little village called Riggio on the Italian shore. The entire swim was made without stimu-

lants, and I restricted myself to the breast and side stroke, not using the back at all. I encountered during the swim strong currents running apparently in all directions, the direction changing every few moments. These currents were at times warm and at others icy cold. There was a high wind and a choppy sea, making it extremely difficult to breathe. I returned to Messina in good condition, and that evening went to the opera."—*New York Recorder.*

Yellow Fever.—The citizens of Brunswick, Ga., ask no more aid from the outside world, and formally withdrew their appeal November 1. The following is their touching statement:

"To the Press and the Charitable People of Our Common Country: Recognizing the fact that even charity, that divinest attribute of human character, at times reaches its limit, the Relief Committee of Brunswick is constrained, through that great medium, the public press, to announce that with a month's provision on hand, and enough funds, carefully and judiciously expended, to meet our immediate wants, that it would be unkind to a generous people to receive further contributions, which our actual necessities do not demand. It would be unjust to accept a greater amount than could be used in the present emergency. Times are hard, money scarce, and we desire no surplus left over. Let the future take care of itself. From all over this broad land our cry of distress has been answered; the charity of a Christian people has enabled us to care for our sick, to feed the hungry and bury our dead. We could not ask more. Words fail to express all we would wish to say to our countrymen, confined, as their generosity has been, by no lines, or sections, but the free-will offerings of the throbbing, sympathetic hearts of a great and noble people. From East, West, North and South came the answer: "You shall not suffer;" from the banker, the merchant, from the gilded homes of wealth, from the cottage, from the hands of matron and maid, from widow and orphan, came the response to our stricken people's appeal.

To the press, which has so kindly aided us, without whose assistance our efforts would have been fruitless; the newspaper men, who made our situation known day by day; to those faithful guardians of the sick—the physicians—without whose skill and attention our fair city would have been desolated, we tender our profoundest gratitude and thanks, sustained as we are, by the assurance that we have tried to do our duty throughout the trying ordeal through which we have passed and are passing and with abiding faith in the protecting care of Almighty God and an early cessation of the epidemic. Whatever may be in transit, donated by the people of this country, will be gladly received. We are faithfully yours,

[Signed] T. W. Lamb, L. C. Bodet, Dr. F. Joerger, J. W. Smith, C. P. Goodyear, J. E. Dart, M. J. Colson, H. A. Wrench, Rev. J. A. Thompson, Rev. Father J. Hennessy. Rev. Ed. F. Cook, William Anderson, S. C. Littlefield, W. F. Symons, Dr. J. A. Butts.

A vote of thanks was also passed to the New York *World* for sending its physician, Dr. Bowen.

THE PUBLIC SERVICES.

Army Medical School, Washington, D. C.—Session of 1893-'94. Order of Duties. Daily, except Saturdays, Sundays and holidays: 9 A.M. to 12 M., Instruction in Pathological Laboratory; 1 P.M. to 2.50 P.M., Instruction in Chemical Laboratory; 3 P.M. to 4 P.M., Lecture.

Saturdays:—9.30 A.M. to 10.30 A.M., at Hospital Corps School of Instruction, Washington Barracks, Practical Instruction in Litter and Ambulance Drill and First Aid; 1.30 P.M. to 3 P.M., in Riding Hall, Fort Myer, Va., Practical Instruction in Equitation.

The lectures will be delivered as follows:

Duties of Medical Officers, Wednesdays, except Nov. 22, 1893, and Jan. 24, 1894.

Military Surgery, etc., Thursdays throughout the course.

Military Hygiene, Fridays, except Feb. 23, 1894.

Military Medicine, Tuesdays, Nov. 7 and 14, Wednesday, Nov. 22, 1893, and Jan. 24, and Mondays, Jan. 29, Feb. 5, 12 and 19, 1894.

Auxiliary Courses.—Bacteriology, General Sternberg, Mondays to and including Jan. 22, 1894.

Military Law, Major G. B. Davis, Judge Advocate U. S. A., Tuesdays in January, 1894.

Comparative Anatomy, etc., Captain J. C. Merrill, Medical Department U. S. A., Tuesdays in December, 1893.

Medical Jurisprudence, Dr. Robert Fletcher, F.R.C.S., England, Tuesdays in February, 1894 (except the 27th); also Friday, February 23.

Parasites in Man, Prof. C. W. Stiles, M.D., Department of Agriculture, Tuesdays, Nov. 21 and 28, 1893.

Due notice of any change of program will be posted on the bulletin board.

WALTER REED,
Capt. and Asst. Surgeon U. S. A.,
Secretary of the Faculty.

Army Changes Official list of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from November 4, 1893, to November 10, 1893.

Capt. WILLIAM STEPHENSON, Asst. Surgeon U. S. A., is granted leave of absence for four months. By direction of the Secretary of War.

Major BLAIR D. TAYLOR, Surgeon, station is changed from the old post of Ft. Bliss, Texas, to the new post of that name, and he will report in person to the commanding officer of the latter named post for duty.

By direction of the Secretary of War, the appointments of WILLIAM W. QUINTON, THOMAS S. BRATTON, DEANE C. HOWARD, ALEXANDER S. PORTER and WILLIAM H. WILSON, to be Assistant Surgeons with the rank of First Lieutenants, to rank from Oct. 26, 1893, are announced. They will report in person without delay, to the President of the Army Medical School in Washington, D. C., for the course of instruction prescribed in General Order No. 78, A. G. O., Sept. 28, 1893.

Capt. FRANCIS J. IVES, Asst. Surgeon, is relieved from temporary duty with the medical section of the War Department Exhibit, World's Columbian Exposition, Chicago, Ill., and will return to his proper station, Ft. Sheridan, Ill.

First Lieut. JOHN S. KULP, Asst. Surgeon, now on duty at Columbus Bks., Ohio, will proceed to Jackson Park, Chicago, Ill., and report in person to the commanding officer, Camp Lamont, for temporary duty with the battalion of troops stationed there.

PROMOTIONS.

Capt. EDWARD T. COMEGYS, Asst. Surgeon, to be Surgeon with the rank of Major, Oct. 26, 1893.

First Lieut. JAMES D. GLENNAN, Asst. Surgeon, to be Asst. Surgeon with the rank of Captain, Oct. 29, 1893.

First Lieut. ALFRED E. BRADLEY, Asst. Surgeon, to be Asst. Surgeon with the rank of Captain, Oct. 29, 1893.

Navy Changes. Changes in the Medical Corps of the U. S. Navy for the week ending November 11, 1893.

Surgeon WILLIAM MARTIN, ordered before Retiring Board.

P. A. Surgeon N. J. BLACKWOOD, from Navy Yard, New York, and to Norfolk Hospital.

P. A. Surgeon T. C. CRAIG, ordered to Navy Yard, New York.

P. A. Surgeon E. P. STONE, from Naval Hospital, Chelsea, and to Marine Rendezvous, Boston, Mass.

P. A. Surgeon G. B. WILSON, from Marine Rendezvous, Boston, and to Naval Hospital, Chelsea, Mass.

Medical Inspector B. H. KIDDER, promoted to grade of Medical Director.

P. A. Surgeon JAMES E. GARDNER, promoted to grade of Surgeon.

P. A. Surgeon MILLARD H. CRAWFORD, promoted to grade of Surgeon.

Passed Assistant Surgeon Rush.—Passed Assistant Surgeon Charles W. Rush, United States Navy, (retired,) died November 9, at Annapolis, Md., after a lingering illness, of consumption. Dr. Rush married a daughter of Prof. W. W. Fay of the Navy, at whose house he died. He had been in bad health for a long time. He was appointed from New York, and was made Assistant Surgeon in July, 1883. Last June, owing to ill health, he was put on the retired list after having served a year on leave. His disease was contracted in the line of duty.

LETTERS RECEIVED.

(A) Antikamnia Chemical Co., St. Louis, Mo.; Andrews, Edmund, Chicago, Ill.; Allport, Frank, Minneapolis, Minn.; Allen, Marie E., Philadelphia, Pa.; Atkins, E. C., Colorado Springs, Col.; (B) Beadles, Chas. H., Lewistown, Ill.; Brush, E. F., Mt. Vernon, N. Y.; Barck, C., St. Louis, Mo.; Bates & Morse Adv. Agency, New York City; Banga, H., Chicago, Ill.; Bailey, Fairchild & Co., New York City; Dr. Bienfait, Liege, Belgium; (C) Cameron, D. E., Toronto, Canada; Criley, B. H., Dallas Center, Iowa; Clark, E. C., San Francisco, Cal.; Castle, Wilmot & Co., Rochester, N. Y.; Chancellor, E., St. Louis, Mo.; Chain & Hardy, Denver, Col.; Clum, F. D., Cheviot, N. Y.; (D) De Schweinitz, G. E., Philadelphia, Pa.; Davis, Thos. B., Pittsburg; Doyle, O. M., Seneca, S. C.; Duffield, S. P. Dearborn, Mich.; (E) Ely, J. S., Barnesville, Ohio; Elce Bros., Galena, Ill.; (F) Frankhauser, F. W., Reading, Pa.; Fessenden, C. S. D., Mobile, Ala.; Fish, Wm. H., Baylis, Ill.; FitzHugh, J. A., Amesbury, Mass.; (G) Garlock, C. L., Ann Arbor, Mich.; Gibson, Maris, Wilkesbarre, Pa.; Girard, A. C., Fort Sheridan, Ill.; Gihon, A. L., Washington; (H) Hausmann, Wm., Kewaskum, Wis.; Heath, F. C., Indianapolis, Ind.; Howard, E. C., Philadelphia, Pa.; Holmes, Bayard, Chicago, Ill.; Hummell & Parmele, Philadelphia, Pa.; (I) Imperial Granum Co., New Haven, Conn.; (K) Knox, S. B. P., Santa Barbara, Cal.; King, Chas. Lee, Lamanda Park, Cal.; (L) Long, F. A., Madison, Neb.; Lord & Thomas, Chicago, Ill., 2; (M) McGahan, C. F., Aiken, S. C.; McArthur Hypophosphite Co., Ansonia, Conn.; Maltine Mfg. Co., New York City, 2; Mattison, J. B., Brooklyn, N. Y; Mathews, J. M., Louisville, Ky.; Morris, R. T., New York City; (N) Nowlin, A., Hutto, Texas; Noble, C. P., Philadelphia, Pa.; (P) Patton, Ella M., Quincy, Ill.; Parke, Davis & Co., Detroit, Mich.; Post-Graduate Medical School, New York City; Patton, E. M., Quincy, Ill.; (R) Rogers, S. F., Troy, N. Y; Rouvier, Jules, Beyreuth, Syria; Reed, C. A. L., Cincinnati, Ohio; Rumbold, T. F., San Francisco, Cal.; (S) Schachner, Aug., Louisville, Ky.; Stechert, G. E., New York City; Sanders, Enno, St. Louis, Mo.; (T) Toner, J. M., Washington, D. C.; Tuley, Henry E., Louisville, Ky.; (W) Wheeler, W. G., Chelsea, Mass.; White, J. A., Richmond, Va.; Waterman, O. M., Milwaukee, Wis.; (Y) Yocum, J. R., Tacoma, Wash.

Blank Applications for membership in the ASSOCIATION at the JOURNAL office.